

**Cultivating creativity: The relationship between inclusive leadership,  
psychological safety, vitality, openness to experience and creative work  
involvement**

by  
Amanda Mavrokordatos

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Supervisor: Michèle Boonzaier

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## ABSTRACT

Organisations are rapidly discovering the invaluable influence of creativity and innovation at work. An individual's capacity to engage creatively with his or her work is becoming increasingly recognised as integral for organisational success and competitive advantage. The quest for an increase in creative output is driven by the following question: what causes variance in creative work involvement?

The purpose of this study was to address the question of variance in creative work involvement across a variety of industries. In order to do so empirically, a structural model was developed after an interrogation of the literature to present the hypothesised relationships suggested through previous research. In essence, this study explored the significance of four relationships: (1) the effect of psychological safety on creative work involvement, (2) the effect of inclusive leadership on psychological safety, (3) the effect of openness to experience on creative work involvement, and (4) the moderating effect of vitality on the relationship between psychological safety and creative work involvement.

The research approach was a quantitative study in which an ex post facto correlation research design was used. A total of 39 organisations participated in the study; they are located in the Western Cape, Eastern Cape and Gauteng provinces in South Africa. An electronic self-administered survey that consisted of six sections and 39 items was distributed to employees in varying roles and across different industries. Participation was voluntary; 519 employees engaged in the survey. Multiple regression analysis was used in order to evaluate the data collected. Creative work involvement, psychological safety and vitality were measured by utilising the measurement items presented by Kark and Carmeli (2009). Inclusive leadership was measured using nine items from Carmeli, Reiter-Palmon and Ziv (2010). Lastly, openness to experience was measured using the HEXACO-60 survey (Lee & Ashton, 2004), of which only the 10 items pertaining to this construct were included in the survey presented to the participants.

The findings reveal that psychological safety had a significant effect on creative work involvement, and inclusive leadership was shown to have a significant effect on psychological safety. In addition, there was a significant positive relationship between openness to experience and creative work involvement. Moreover, vitality

was shown not to have a significant moderating effect on the relationship between psychological safety and creative work involvement. It also was found that the relationship between vitality and creative work involvement was significant. The discussions and implications of this research suggest a number of implementations with which managers can engage in order to stimulate creative behaviour and further encourage creative work involvement through strategic decision making at a variety of organisational levels. Greater levels of creative work engagement can be achieved for the overall success of the organisation, which could have an impact on the global community at large.

## OPSOMMING

Organisasies besef toenemend die onskatbare waarde van kreatiwiteit en innovasie in die werkplek. 'n Individue se vermoë om kreatief met sy of haar werk om te gaan, word toenemend erken as noodsaaklik vir 'n organisasie se sukses en mededingende voordeel (Florida & Goodnight, 2005, soos Bissola & Imperatori, 2011). Die soeke na 'n toename in kreatiewe uitset/produksie/opbrengs/vermoë word gedryf deur die volgende vraag: wat veroorsaak variansie in kreatiewe werksbetrokkenheid?

Die doel van hierdie studie was om die vraag oor variansie in kreatiewe werksbetrokkenheid in 'n verskeidenheid industrieë aan te spreek. Om dit empiries te doen, is 'n strukturele model, na bestudering van die literatuur, ontwikkel wat die hipotetiese verhoudinge uitbeeld wat deur vorige navorsing gesuggereer is. In wese verken hierdie studie die beduidendheid van vier verhoudinge: (1) die effek van sielkundige veiligheid op kreatiewe werksbetrokkenheid, (2) die effek van inklusiewe leierskap op sielkundige veiligheid, (3) die effek van ontvanklikheid vir ervaring op kreatiewe werksbetrokkenheid, en (4) die modererende effek van lewenskragtigheid op die verhouding tussen sielkundige veiligheid en kreatiewe werksbetrokkenheid.

Die navorsingswerkswyse is 'n kwantitatiewe studie waarin 'n ex post facto-korrelasionele navorsingsontwerp gebruik is. 'n Totaal van 39 organisasies, geleë in die Wes-Kaap, Oos-Kaap en Gauteng, het aan die studie deelgeneem. 'n Elektroniese selfgeadministreerde vraelys, bestaande uit ses afdelings en 39 items, is onder werknemers in verskeie rolle en in verskeie industrieë versprei. Deelname was vrywillig en 519 werknemers het die vraelys voltooi. Meervoudige regressie-analise is gebruik om die ingesamelde data te evalueer. Kreatiewe werksbetrokkenheid, sielkundige veiligheid en lewenskragtigheid is gemeet met behulp van die metings-items wat deur Kark and Carmeli (2009) voorgestel is. Inklusiewe leierskap is gemeet met nege items van Carmeli, Reiter-Palmon en Ziv (2010). Laastens is die ontvanklikheid vir ervaring gemeet met gebruik van die HEXACO-60 opname (Lee & Ashton, 2004), waarvan slegs die 10 items wat betrekking het op hierdie konstruk ingesluit is in die vraelys wat aan die deelnemers voorgelê is.

Die bevindinge het getoon dat sielkundige veiligheid 'n beduidende effek op kreatiewe werksbetrokkenheid het en dat inklusiewe leierskap 'n beduidende effek op sielkundige veiligheid het. Bykomend hiertoe is 'n beduidende positiewe verwantskap tussen ontvanklikheid vir ervaring en kreatiewe werksbetrokkenheid gevind. Verder is aangedui dat lewenskragtigheid nie 'n beduidende modererende effek op die verwantskap tussen sielkundige veiligheid en kreatiewe werksbetrokkenheid het nie. Daar is ook bevind dat die verwantskap tussen lewenskragtigheid en kreatiewe werksbetrokkenheid beduidend is. In die bespreking en implikasies van hierdie navorsing word 'n aantal voorstelle gemaak wat bestuurders kan implementeer om kreatiewe gedrag te stimuleer en kreatiewe werksbetrokkenheid verder aan te moedig deur strategiese besluitneming op 'n verskeidenheid van organisatoriese vlakke. Groter vlakke van kreatiewe werksbetrokkenheid kan bereik word wat die oorkoepelende sukses van 'n organisasie bevorder, wat dan weer 'n impak op die globale gemeenskap kan hê.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1. INTRODUCTION**

This chapter explores creativity in relation to the purpose of human resource management as a field within the working world and the global community at large. Managing the performance of employees can be harnessed to direct the success and performance of an organisation. In the same way, it is the management of employee creativity that would need to be harnessed and developed in order to have an effect on innovation and organisational success. Moreover, it is understood that innovative organisations consists of individuals who are at some level engaging creatively at work through their interaction with the environment. The factors that enhance or stifle the individual's creative engagement at work would be crucial to discern and manage in order to ensure optimum individual creative work involvement and, subsequently, optimum organisational innovation. This section orientates the reader in creating an understanding of the significant and effective support of creative work involvement in order for innovation at the organisational level to be influenced positively.

#### **1.2. THE IMPORTANCE OF INNOVATION IN THE MARKET PLACE**

The world is in a state of constant motion, where life within every sphere demonstrates the consistency of change. This has resulted in an accelerated pace of life both in the home environment and in the work sphere, and anxiety and a pressing urgency to prepare for and adapt to change is evident within society at large (Glăveanu, 2010). Increased competition in the global market and, subsequently, a greater variety of options for employees, has caused one-company careers to become rare, as employees find themselves moving through five to ten different careers within their lifetime (Alexander, 1998). This has created a challenge for employees who wish to retain their creative potential and for high-performing employees. Competition in the marketplace, coupled with the increased rate of change in organisational structure, leadership and strategy, has created a need for organisational behaviour and practice that can support such rapidity effectively (Joo & Ready, 2012). Leaders are faced with the challenge of attracting, developing and

retaining talented employees, whilst also maintaining a high-quality and competitive product (Stovel & Botnis, 2002). The global network is also becoming increasingly interconnected as a result of globalisation, thus allowing small organisations to form allies and produce jobs in new and varied niches. Rapid and rigorous changes such as these have forced larger organisations to re-think the company structure and refresh their approach to business in order to remain in alignment with an ever-shifting global market. The expense of ongoing recruitment and retrenchment, pressure to provide greater employee benefits and the need to progress rapidly alongside technological advances has made many traditional organisational practices somewhat unfeasible (Alexander, 1998). While many organisations choose to remain loyal to the early-established structures, practices and traditions, leaders may find that low flexibility in this regard could lead to stagnation in the advancement of the organisation.

Innovation can be identified as an activator of sustainable success in an economy that is primarily knowledge-based (Vinarski-Peretz & Carmeli, 2011). The prioritisation of innovation in organisations is increasingly being adopted by CEOs as a strategy through which organisations can remain competitive within consistently adapting markets. Alongside this prioritisation, there also are greater performance demands (Lawson & Samson, 2001). This is partly owing to the fact that innovation as a process implies a certain level of risk and complexity, as well as an exertion of effort and cognitive resources that exceed the standard expectations for any given task. The effective management and facilitation of innovation thus is crucial for the organisation to remain competitive and for individuals to operate under leadership and within organisational conditions that are most conducive to innovation and high performance. Moreover, many firms not only are experiencing the urgency to innovate, but also are identifying a need to do so rapidly and successfully (Lawson & Samson, 2001).

Alexander (1998) posits that, unless managers embrace an entrepreneurial spirit in their approach to leadership, the organisation may struggle to thrive under the turbulent environmental conditions of intense and consistent change. Adopting an entrepreneurial spirit in leading an organisation may seem less relevant for larger corporations, although Alexander (1998) posits that, just as the entrepreneur thrives on flexibility and speed in order to seize important opportunities for growth, so too

could larger corporations benefit from a similar attitude and approach to the successful capturing of development opportunities. In order to thrive in an ever-shifting market, it is integral to respond and operate in a manner that can meet such demands effectively. Allowing risk taking and flexibility to form part of the approach and culture of operation, and favouring consistent, fluid communication over structure and processes, all form part of this approach. In addition, developing a culture of action, swift decision-making and even a continued sense of urgency are expressions of the entrepreneurial attitude (Alexander, 2008). Moreover, experimentation and openness to new ideas are characteristics that are dominant within an organisational culture in which creativity and innovation are sought after and prioritised. It is this openness that also ushers in a culture through which rapid change can be met effectively with innovative solutions. Creative engagement at work entails experimentation, norm-defying behaviours and risk taking; it thus is crucial that individuals are supported by environmental factors, such as work conditions, to effectively nurture and encourage creative behaviours (Vinarski-Peretz, Binyamin & Carmeli, 2010).

In this regard, the importance of the effective facilitation of creative thinking and innovation in organisations has become increasingly evident, both in the academic world as well as in industry. Creativity can be defined as the generation of ideas or the formation of connections that are novel, yet contextually valuable. Innovation is the application of these creative ideas in which tangible products or processes become evident according to Amabile (cited in Rosa, Qualls & Fuentes, 2008). The role of creativity in the face of rapid change and the ever-shifting world of work has been identified as a crucial one that has potential to have a significant impact on the organisation's capacity to thrive, or even survive, in a fast-paced and turbulent environment (Houghton & DiLiello, 2009).

### **1.3. DEFINITION OF CREATIVITY AND INNOVATION**

To innovate is to change. Creative thinking and innovative behaviour are powerful tools for change and development; innovation is the foundation of advancement in the world (Mumford, Medeiros & Partlow, 2012). Creative ideas can be described as ideas that are new and contextually valuable or useful (Simmons, 2011). It is integral that creativity is present before innovation can flourish. The cultivation of creative



behaviours thus is identified as the starting point for innovative organisations (Isfahani, Hosseini, Khoshknab, Peyrovi & Khanke, 2015). The relationship between creativity and innovation can be explained in that innovation is a manifest result or implementation of creative ideas. Carmeli and Spreitzer (2009) discuss the three stages in which innovative behaviour takes place at work. Firstly, the individual must conceptualise a creative solution to a problem or obstruction that he or she has recognised. Next, the individual must find or create a channel through which the solution can be pursued and promoted. Lastly, the idea must materialise through experimentation, prototyping or presenting a model of the solution in the work environment. Innovation is also drawn from three main sources: (1) imitative, whereby existing innovations are reproduced; (2) acquisitive, whereby existing innovations are purchased and acquired in this sense; and finally (3) incubative, whereby employees themselves are responsible for the development of the innovation (Damanpour & Gopalakrishnan, 1998).

It must also be noted that the development of creative ideas requires a time commitment, as these ideas often are far removed from the initial concept. Creativity thus requires an exertion of time and energy that exceeds the standard requirement for the task execution; however, the benefits will be reaped on both a personal and organisational level (Zampetakis, Bouranta & Moustakis, 2010). This further illuminates the urgency for the effective prioritisation of creativity at work.

Whilst this explanation stands as the definition of creativity and innovation and the relationship between the two, there is the tendency to use the word 'creative' in a casual and colloquial sense, where the word is used as a general commendation. The term is also often used as a marketing ploy, an attempt to communicate the notion that the idea is unique, exciting and sought after, for example. In this way, the significance of the word may tend to be diluted such that a 'creative' idea, product or service may truly only be one that incites excitement, spontaneity, artistic skill, divergence or even the use of design or colour.

While creative products are likely to include such elements, the term can often be used synonymously with these, the result of which can be degenerative to creativity and the potential value that can be added. Without an informed understanding of creativity, novel and contextually valuable solutions that are produced in ambiguously creative industries may not be recognised for the opportunities that they

truly present (Kurtzberg, 2005). Individuals who work in ambiguously creative industries may not deem themselves creative; confidence in one's creative capacity is highly indicative of the creative products generated. Nayak (2008) discusses how creativity has been so closely associated with the arts, causing seemingly 'uncreative' industries not to identify creativity as a priority in the work space. In understanding generalisable creativity (everyday creativity), it can be seen how creativity manifests through problem solving and divergent thinking, which are crucial across industries, and not only in firms associated with advertising, media and marketing, which are more explicitly focused on an unambiguously creative product. It thus is important to develop an accurate understanding of creative thinking and creative ideas, neither of which are limited to explicitly creative industries. Importantly, creative thinking and the generation of innovative solutions is valuable and effective where there are teams engaging in problem solving together. Regardless of the nature of the industry, requirement of the job role or demands of the project, encouragement and a conducive environment for divergence and experimentation with new ideas can fuel creativity within these various contexts. In order for organisations to manage the rapidly changing market effectively, with vigour and aggression, creativity should be integrated holistically into company strategies.

Furthermore, creative thinking can in fact also be experienced as an alternative to routine work; one has the choice to engage habitually or creatively (Madjar & Greenberg, 2011). Creative thinking can be infused into the management of every level or sphere of an organisation: time, personnel, stock, meetings, etc. This can be contrasted to the more passive approach in which creativity remains something of an afterthought, an addition or complement to standard organisational strategies. Every department in each industry can benefit immensely from ideas that are both novel and contextually valuable – these have the capacity to bolster departmental and, subsequently, organisational success.

The question whether or not creativity should be prioritised or deemed a last-minute afterthought is answered in the recognition that creative ideas and subsequent innovative products can serve as vital weapons to succeed within a competitive market. The advantage rendered through highly innovative solutions may have a significant impact on the organisation's development. Moreover, innovation has been

identified as a strategic approach in managing crisis situations within organisations (Cingöz & Akdoğan, 2011). It therefore is important that managers are able to be skilful in harnessing the environment and external conditions for optimum creativity (Sohmen, 2015). Despite the fact that each industry and organisation presents its own unique challenges, it is evident that the reality of a crisis situation or the challenge of finding solutions to new problems is a process that employees across organisations would need to be fully equipped and supported to carry out. The possession of new and effective weapons in a war would not be overlooked by a military commander; hence organisational leaders should consider supporting creative engagement with urgency.

The question whether or not creativity should be a dominant strategy that filters explicitly through every level and process of the organisation, or merely a thought that materialises once a project or product has already been completed, is an imperative consideration exposing the degree to which innovation is understood, valued and invested in within an organisation. It should be noted that an innovative firm is a constant moving target for its competitors (Lawson & Samson, 2001). Consistent improvement in flexibility and quality of performance is a result of organisational leaders who have managed to design procedures and structures in such a way that new and valuable products or services are generated that add value for the customer. Organisations that reap financial benefits through innovative systems require leaders who prioritise innovation enough to consider the stimulation of innovation on a strategic level. It thus would be imperative to develop a more detailed understanding of the factors associated with the presence of creativity.

#### **1.4. ADVANCEMENT, EMPOWERMENT AND RESILIENCE THROUGH INNOVATION**

In opposition, however, Getz and Robinson (2003) warn against the 'innovate or die' buzz-phrase that has distracted various organisations into a consuming pursuit of novelty and innovation. It is evident that understanding and strengthening creativity and innovation in organisations has become a popular pursuit; some may recognise this as something of a trend or frenzy, therefore researchers have found reason to explore creativity with caution and scrutiny. Psychologists seek to identify the degree to which innovation should be prioritised and caution against the neglect of a

steadfast focus of long-term, high performance (Glăveanu, 2010). According to Getz and Robinson (2003), managerial attraction to innovation can be likened to the desire for a one-time jackpot win that supposedly eradicates problems instantaneously through minimal exertion of effort and time. This position promotes the notion that establishing an organisation founded on innovation is like building a penthouse on moving sand (Getz & Robinson, 2003). Thus, it must be acknowledged that the role and importance of innovation have not been embraced equally by all industries and organisations. Nonetheless, the rapid changes taking place in the world of work present new and unique challenges daily. This reality isolates a need for effective and rigorous problem solving at the very least, as well as an order of thinking that is malleable, flexible and aggressive enough to effectively meet such challenges. If organisations aim to progress and remain competitive, it would be integral for managers within the various industries to strategically coordinate the work environment so that creative work involvement can be harnessed for the organisation's strengthening. Once again, the interaction between the individual and his or her environment is shown to be of great significance in understanding the unfolding of creativity and innovation at work.

Creative thinking, and the subsequent innovative products and services, can be identified as some of the most vital characteristics of an organisation that is contributing positively to the local and global community. Moreover, the following should also be considered for greater insight into this conflict. A long-term, high-performance culture and customer reliance on work standardisation in organisations cannot be overruled. Importantly, however, is Kondo's (1996) exploration of the relationship between standardisation and creativity, discovering that these two areas are not contradictory but rather complementary. Thus the quality of an organisation's performance need not be compromised where creativity is valued; in fact, provided that employees are given a clear and transparent aim of the work and freedom in the methods chosen to complete the work, creativity should function as an activator of successful output. The investment in creativity and the maintenance of consistent performance need not be mutually exclusive. Whilst acknowledging the position promoted by Getz and Robinson (2003), the current study maintains a high regard for the importance of creative engagement in the ever-shifting world of work for the development of organisational resilience. The organisational environment often is

complex, dynamic and, of course, reliant on the actions and attitudes of the workforce. Exploring creative work involvement for the effective development of organisational growth would be integral to examining how employees themselves perceive, value and exercise their creativity in the workplace.

Kondo (1996) promotes the importance of creativity as a motivating factor in organisations. When employees are acknowledged for their personal input and creativity by being encouraged to express this through the method of execution, employee motivation is engaged. This is because the space created for personal input and creative contributions reinforces the organisation's acknowledgment of employee individuality and the value represented in unique contributions. Therefore, while creativity is important to meet ever-shifting market demands, it also is closely associated with the stimulation of motivation at work. Moreover, according to Tokizane (as cited in Kondo, 1996, p. 37) includes 'to create' as one of the features that characterises what it means to be human. This features alongside items such as 'to eat', 'to learn', 'to sleep'. When considering creativity in this way, it could be argued that encouraging creative thinking at work contributes towards the effective engagement of the full capacity and humanity of the employee. This further emphasises the importance of developing an understanding of how creativity can be made to flourish, not only for the profitability and organisational development that innovation may activate, but also for the holistic engagement and psychological stimulation and wellbeing of the workforce.

The positive effect of creative engagement at work in organisations spans far beyond the benefit of fuelling innovation for organisational growth and advancement. The acknowledgment and defence of human dispositions in organisations is an area in which human resource management as a field of practice should have a positive impact (Stovel & Bontis, 2002). It thus can be concluded that emphasising and investing in creative engagement at work are valuable on a rudimentary, humanistic level. Management that supports innovation can contribute towards employee motivation and have a positive impact on performance. This also will be highly influential on the advancement and competitive growth of the organisation, equipping the workforce to meet the demands of an aggressive market effectively.

Garthwait (2015) discusses how, in the sphere of social work, students are trained and equipped to harness innovation for the suppression and effective management

of the strenuous frustrations that typically face professionals in this arena. While it may not seem as though creativity has a valuable and relevant contribution to make, innovative behaviour, creative ideas and divergent thinking function as crucial tools to effectively combat the various challenges that can become destructive to a social worker's effective service delivery. This is one example of how seemingly uncreative industries truly benefit significantly from the effective creative engagement with work tasks (Garthwait, 2015). As far as the current study is concerned, establishing an organisation that values innovation may assist employees to be equipped to manage rapid change within turbulent market conditions. When a management team and the organisational structures and strategies are geared towards harnessing creative potential, it can be expected that the organisation will be able to challenge the storm with equal vigour through rigorous innovative solutions (Yuan & Woodman, 2010, as cited in Cingöz & Akdoğan, 2011). In short, the effective stimulation of creative work involvement can assist employees and the organisation as a whole to grow in resilience and competitiveness. Increased knowledge of and insight into the relevant variables can further inform leaders in decision-making roles to be of strategic influence in this arena.

### **1.5. EXPLORING CREATIVITY AND THE BOTTOM-LINE EFFECT**

Chapter 1 has illuminated the importance of creativity in organisations for the development and success of the innovation within a rapidly changing environment. Creativity is integral for an organisation to remain competitive (Huang & Farh, 2009). In addition, the innate process of creating is identified as an important consideration for the effective management of creativity at work. Lastly, innovation has been identified as a foundational and vital strategic objective for thriving and surviving as a successful organisation through the designing of processes and systems that effectively meet the challenges posed by a rapidly changing environment (Subramanian & Nilakanta, 1996). Important, however, is the consideration of how creativity can strengthen the profitability of an organisation.

The study of creativity has taken place in various stages as knowledge and research have progressed. Initially, creativity was considered to be a gift of genius, and at a later stage it was understood to be a personality-specific trait when the focus of research became creative people. In more recent times, psychologists have

researched creativity within a social context, in terms of which environmental factors are identified as contributing elements (Glăveanu, 2010). This type of research awakens insights on the influence of collaboration, and the importance of diversity and the cross-fertilisation of ideas. The understanding that the creative genius generates ideas purely in isolation has undergone much development and re-analysis in the light of the multitude of external factors that have been shown to contribute towards the generation of creative ideas. Creativity is indeed a product of social interactions and collaboration according to Purser & Montuori (as cited in Glăveanu, 2010).

The current study explores creativity based on the foundation that has been developed by Theresa Amabile since the 1980s, which illuminates the effect of an individual's environment and social interactions on creativity thinking and ideas. The term 'creativity' may very well form part of an organisation's values and objectives; however, until the workforce demonstrates the use of creative processes and ideally experiments with new ideas, one cannot claim to form part of an actively innovating workforce.

Creativity is also the first step in the innovation process (Schilpzand, Herold & Shalley, 2011). This implies that the demonstration of creative behaviour or creative engagement with given work tasks is subsequent to creative thinking. Kark and Carmeli (2009) discuss how creative behaviour is likely to be exhibited by employees who spend time and effort engaging creatively at work. For example, finding a new use for a process or piece of equipment is a practical expression of a creative idea from which all stakeholders can benefit tangibly. The degree to which an individual is spending time and effort to engage creatively at work is a pertinent factor when seeking to ignite innovation at work. Engaging in creative work is measured largely by one's ability to solve problems that other people have been unable to solve, the ability to present original work, the demonstration of risk-taking and the capacity to find new and valuable methods of completing a familiar task (Kark & Carmeli, 2009). Therefore, engaging creatively at work implies the individual's involvement in innovative behaviour that creates opportunities for innovative solutions, products or services to be generated (Cingöz & Akdoğan, 2011). It is through the development of creative ideas that organisations can gain profit. In recognising the economic success that may follow the strategic management of creative potential, it would be



imperative not only to have a sound knowledge base of individual factors pertaining to creative behaviour, but also to develop a deeper understanding of the environmental factors that affect creative potential. This will be explored further later.

Moreover, leaders are confronted with the fact that control can be imposed within the organisation, but navigating the external environment of the marketplace is something that cannot be controlled effectively. The effective management of employees – the human resource capital that is responsible for the success of an organisation – should be considered with caution, diligence and strategy, as this is a component of the organisation that can be adjusted as a whole (Stovel & Bontis, 2002). A long-term competitive edge can only be fully controlled and developed through the effective management of personnel and of the talents and skills that are available within the team.

The creativity and potential for innovation that form part of the strategic assets that are available within the workforce and that can be activated and harnessed to stimulate growth and organisational thriving is certainly an area that should be prioritised by leaders. Without handling human capital, as well as the skills and talents, with strategic care, leaders may stifle the potential growth and success of the firm (Stovel & Bontis, 2002). Moreover, employees who recognise the mismanagement or neglect of their skills may not deem the organisation worthy of their time and skill investment and may seek work opportunities at competing firms. Research indicates that the selection and upskilling a new staff member to fill a vacancy is a great expense to the company. In fact, Johnson et al. (as cited in Stovel & Bontis, 2002) estimate this expense to be as much as fifty percent of the worker's annual salary. When employees leave the company, the costs accounted for include a reduction in productivity during the transition of positions, as well as the increased productivity and skill advancement of competitors; both of these factors also cause expenses for the organisation. For these reasons it is clear that the effective and strategic management of employee skills, such as creative potential, is of high importance for the overall success of both the organisation and its profitability (Stovel & Bontis, 2002). Further exploration of how creativity can be facilitated and stimulated is undertaken below.



## **1.6. RESEARCH PROBLEM**

For-profit organisations are established primarily for the purpose of harvesting a profit in order to reward employees, to continue to provide the product or service with which the organisation is associated, and to contribute meaningfully to the community and world at large. It has been established that the ever-shifting global market presents a multitude of challenges and changes to such organisations that call for rigorous innovative thinking. Needless to say, non-profit or governmental organisations that are better described as purpose-driven as opposed to profit-driven also operate within challenging environments and display a need for creative solutions. The acknowledgment of and provision for creativity engages motivation, ensuring that the human element of work remains intact. Furthermore, since the ability to create is core to our being as humans, it has also been highlighted as an important consideration for organisations.

In order to thrive and survive in an environment that is dynamic and changing, organisational leaders should engage in an entrepreneurial attitude whereby risk taking is encouraged and creativity is embraced; creativity is an integral component if an organisation is to flourish and remain competitive (Gong et al., 2009). If organisations are to reap the benefits of creative thinking, there is a need for knowledge and progression in this direction. Organisational leaders would then be able to make practical decisions in order to usher in greater levels of innovation. It thus is important to realise that levels of creative engagement will vary. Certain organisations generate more innovative products or services than others. Particular institutions thrive under the pressure of change through harnessing creative thinking and behaviour (Gong et al., 2009). This points towards the existence of a creativity bias across these organisations and indicates the need for a strategy with which one can fuel creativity for the overall success of the organisation. Finally, it is important to recognise how creative work involvement develops into innovative products that fuel organisational success, despite the fact that the process may be perceived and experienced as instable and may only yield a result after a long-term commitment to the strategies (Lawson & Samson, 2001). Needless to say, orchestrating innovation in organisations is a complex process that takes place in an integrated system. The culmination of knowledge regarding innovation at work and, importantly, the factors

influencing creativity at the individual level thus is an important area of research for both academic communities as well as for industry.

### **1.7. THE PERSON-ENVIRONMENT INTERACTION**

According to Perry-Smith (as cited in Kark & Carmeli, 2009, p. 786), we “know little about how the social context affects individual thinking when it comes to the generation of creative ideas or solutions as evidenced by the relative creativity of work outputs”. The degree to which innovation will flourish in an organisation is largely dependent on the restrictions or opportunities for and encouragement of creativity (Walker, 2007). Moreover, there is a need for further findings in the area of how creative work involvement is associated with the social environment (Kark & Carmeli, 2009). Amabile (as cited in Isfahani et al., 2015) posits that creativity is broadly comprised of three dominant components: the motivation to engage creatively, creative capacity, such as divergent thinking and creative thinking skills and, finally, expertise. The value of possessing a high degree of knowledge and skills or being an expert in a certain role or in the specific tasks is an important component for the eventual generation of creative products. This is owing to the fact that thinking creatively requires the individual to consider novel and valuable ideas pertaining to the particular project or topic. This implies that the individual must already have a sound knowledge of and cognitive resources for a topic before he or she is able to discern if an idea is novel and contextually valuable.

Organisations would benefit greatly in knowing how best to maintain creative engagement at work; a number of factors such as motivation, cognition and intellect, for example, have been explored to understand how some employees are able to engage creatively at work while others show less evidence of this (Kark & Carmeli, 2009). Organisational leaders also play a key role in shaping the culture of performance at work, and it thus would be integral to understand the manner in which leaders can best facilitate creative work involvement (Carmeli et al., 2010).

Apart from the environment and the leader, who is in the integral position of leveraging the environment, there is the individual employee with his or her creative disposition. Perhaps this is the most important consideration when trying to orchestrate creativity at work, or perhaps any amount of potential can be increased through an appropriate work climate that is highly supportive of creative behaviour.

In fact, the 'management' of creativity seems to be a paradoxical phrase when one considers how the micro-management of certain competencies can in fact have a negative impact on the development of innovation (Lawson & Sampson 2001). It has also been noted that engaging creatively at work requires the individual to expend time and emotional resources on the process, over and above a standard requirement; this emphasises the urgency of gaining an understanding of the environment in which creative engagement can be effectively supported (Zhang & Bartol, 2010).

Interestingly, passion and enjoyment of work have also been shown to be associated with high creative performance (Isfahani et al., 2015). The implications of this for how leaders can strategically facilitate an environment and work task that could lead to creativity are to a large degree affected by highly influential interactions between people and their environment. An individual's capacity to engage innovatively involves higher order levels of thinking, as there is a need for the complex organisation and integration of information (Lawson & Samson, 2001). In order for organisations to combat multiple challenges effectively, such as competition and the rapid changes and uncertainty evident in the marketplace, employees are required to "exceed standard work behaviours" by demonstrating creativity in the execution of work tasks (Agarwal, Datta, Blake-Beard & Bhargava, 2011, p. 213).

Individuals who have a high disposition for being creative are those who are likely to make a concerted effort to engage creatively at work and to strive actively to demonstrate their creative capacity within their work tasks; it thus is vital for managers to be informed about the effective facilitation of creativity to harness the potential of employees who have a high tendency to innovate and engage creatively (Udwadia, 1990). Research also shows how playfulness contributes towards creative thinking by facilitating an environment in which new ideas can be discovered and new dimensions can be explored. With the fast-paced and aggressive work market, which places extensive pressure on organisations to increase the quality and rate of performance, establishing such a culture that encourages experimentation, playfulness and creativity can become a challenge. There are numerous factors that could facilitate the kind of culture in which creativity can be encouraged. This study aims to explore engagement in creative work and the approach that organisations need to take in order to bolster such behaviour.

### **1.8. RESEARCH-INITIATING QUESTION**

The research-initiating question for this study therefore was: What causes variance in creative work involvement?

### **1.9. OBJECTIVE OF THE STUDY**

The objective of the study was to develop and test a creative work involvement model based on a literature review. In pursuing this, pertinent variables were tested as causes of creative work involvement and to recommend practical implications of the research for managerial input in organisations.

### **1.10. RESEARCH METHODOLOGY**

An assessment of the literature took place in which various aspects of creativity within the work context were explored until the core variables that could be hypothesised as antecedents of creative work involvement had been identified. Thereafter the study was conducted, in terms of which empirical data was collected by self-administered electronic surveys that were distributed to the participants through cluster emails. The survey presented 39 items assessing the five constructs explored in this study, as well as an initial section that requested demographic information. A pilot study revealed that it would take an individual between five and eight minutes to complete the survey.

The participants were permanent employees at 39 organisations across South Africa. In total, 519 individuals participated. There was moderate variance in age and income status, thus job roles and levels can also be assumed to have been varied. Some industries that featured in the data sample are architecture and design, advertising, branding and marketing, an airline company, animation, construction and property, culinary arts, a dance studio, educational institution (secondary), educational content development, engineering, fashion, financial services, fresh foods, trade, human resource management, information technology, data management, financial solutions, interior/décor, online retail, insurance logistics, photography, product design and development, real estate, training and development, and a travel agency.

### **1.11. DELIMITATION**

The focus of the current study was on testing a creative work involvement model that presents the hypothesised relationships between a network of variables and in which creative work involvement was the dependent variable. The research-initiating question of what causes variance in creative work involvement was explored. Contextually, creative work involvement was identified as forming part of a larger constellation of variables in which the pertinent interaction between the individual and his or her environment was recognised

### **1.12. OUTLINE OF THE RESEARCH STUDY**

The introduction and orientation to role creativity in organisations and the purpose that it holds in catalysing organisational innovation have been discussed in Chapter 1. The need for creativity to engage motivation and problem solving, which are necessary to effectively support the organisation within a rapidly changing environment, have been discussed. Finally, the purpose and objectives of the study were presented. The objectives and the limitations of the study were described.

Chapter 2 presents the literature review, in which the five relevant constructs are described in detail. Importantly, each section culminates in a hypothesis based on previous literature, suggesting a relationship with another variable. This is in response to the research-initiating question, which asks what causes variance in creative work involvement.

Chapter 3 describes the methodology that was used in the study to collect the empirical data. In addition, Chapter 3 stipulates the research design and information regarding the participants. The measurement tools that were used to assess the participants are presented, as well as the statistical analyses and ethical considerations. Finally, the substantive research hypotheses are presented.

The results are reported in Chapter 4, in which the findings with regard to item analysis, confirmatory factor analysis (CFA), structural equation modelling (SEM) and partial least squares (PLS) modelling are presented. The hypotheses are addressed in terms of whether or not they obtained statistical significance.

The practical importance of the study is revealed in Chapter 5, in which the managerial implications are presented. In addition, interventions for the workforce

are described for the consideration of managers who wish to further cultivate innovation and creative work involvement as a response to the findings of this study. The limitations of the study are highlighted, along with an indication of where future research could be directed.

### **1.13. GLOSSARY OF TERMS**

The following provides brief definitions of the relevant constructs.

#### **1.13.1. Innovation**

Innovation is the application of creativity through which tangible products or processes become evident according to Amabile (as cited in Rosa et al., 2008).

#### **1.13.2. Creativity**

Creativity can be defined as the generation of ideas or the formation of connections that are novel, yet contextually according to Amabile (as cited in Rosa et al., 2008).

#### **1.13.3. Creative work involvement**

This construct assesses the degree to which an individual engages creatively at work, demonstrating an innovative pattern of thinking and behaving. In essence, the following are indicative of creative work involvement: demonstrating a willingness to suggest new directions for the work being done, exhibiting originality in work output, and presenting ideas that display both originality as well as contextual value. Creative work involvement simply measures the degree to which this type of behaviour takes place on an individual level (Kark & Carmeli, 2009).

#### **1.13.4. Psychological safety**

Psychological safety is a term that refers to the degree to which employees regard interpersonal risks at work as being potentially detrimental to their status or career when presenting or employing themselves within the group. In essence, psychological safety is the basic understanding and expectation of team member responses. The associated audit of the risk of vulnerability versus the necessity to render oneself vulnerable to the team is a crucial component of psychological safety (Kark & Carmeli, 2009).

#### **1.13.5. Openness to experience**

This construct explains the degree to which individuals are “imaginative, sensitive to aesthetics, curious, independent thinkers and amenable to new ideas, experiences, and unconventional perspectives” (George & Zhou, 2001, p. 514). Openness to experience is associated with a preference for and responsiveness to novelty, depth of experience and variety by individuals who gravitate towards ideas that are familiar, routine and conventional (George & Zhou, 2001).

#### **1.13.6. Vitality**

Vitality includes feelings of aliveness, optimism and positive energy at work (Kark & Carmeli, 2009). This often fuels an enthusiasm to explore new ways of completing a task. Vitality is also an expression of physical and mental strength at work (Kark & Carmeli, 2009). Leadership behaviours can powerfully influence the degree to which an individual feels psychologically safe within the team. This degree of trust, which further enables the team to develop its creativity, requires a leader who displays openness, availability and accessibility (Carmeli et al., 2010). These are the three dimensions that make up inclusive leadership. In addition, inclusive leaders encourage risk taking and relay the importance of communicating new ideas to the group and leader. This type of leader also ensures that team members are not burdened with an over-looming concern that negative consequences may follow the employees' pursuit of new ideas or risk taking. Leaders who penalise behaviours that engage experimentation hinder the outflow of creative engagement in the team. Inclusive leaders support risk taking, are available and open to suggestions of new ideas, and encourage experimentation.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1. INTRODUCTION**

The following section presents an analysis of the research literature regarding variance in creative work. The objective of the literature review is to decipher, from the literature, the latent variables that are specific and relevant to the exploration of the research-initiating question. Through an analysis of the literature and a process of elimination, a selection of variables is presented below. Finally, each section culminates in various research hypotheses that assist in answering the research-initiating question.

#### **2.2. HISTORICAL CONCEPT OF CREATIVE WORK INVOLVEMENT**

The construct of creative work involvement was developed by Kark and Carmeli (2009), who found that, while there are other constructs assessing the product of creative efforts or the degree of motivation or engagement relating to creative work tasks, a manner in which to ascertain the individual's subjective measurement of the degree to which he/she feels that he/she is involving himself in creative processes at work had not yet been identified. Carmeli and Schaubroeck (2007) distinguish creative work involvement from creative performance by emphasising the exertion of time and effort pertaining to creative work as opposed to the quality of the output. Creative work involvement is in alignment with job involvement, in that both explore work commitment and are associated with specific work outcomes (Kark & Carmeli, 2009).

Amabile (as cited in Kark & Carmeli, 2009) presents a definition of creativity as the production of ideas or solutions that are both novel and useful. Regardless of the nature of the industry or job type, it is clear that the generation of products, services, solutions and ideas that are new and contextually valuable is not an exclusive need. Rather, the usefulness and relevance of creative behaviour are overwhelmingly relevant across industries. As a result, the research pertaining to creativity has been drawn from a variety of schools of thought, including psychology and sociology, in order to identify the distinguishing factors between individuals where varying levels of creativity are expressed (Kark & Carmeli, 2009). Findlay and Lumsden (as cited in



Carmeli & Schaubroeck, 2007) describe individual creativity as a combination of personality and intellectual traits that operate together to express creative thinking and behaviour, while Drazin, Glynn and Kazanjian (as cited in Carmeli & Schaubroeck, 2007) posit that the cognitive output of divergent ideas is a demonstration of creativity.

Idea generation and the development of effective and innovative solutions to business problems are identified as important processes that could take effect and activate useful change and growth in a variety of organisational settings. The value of creativity and innovation to an organisation has already been addressed. However, the value of creativity is re-iterated here in order to demonstrate the development of creative work involvement as an important construct that takes effect in the modern workplace. In order to develop an understanding of creativity and how it can be stimulated in the workplace, it is important to develop a framework to demonstrate the development of how research has advanced in this area. While developing an understanding of the functioning of creativity at the collective level offers significant managerial insights into how the skill can be harnessed for organisational benefit, individual-level creativity would be a foundational sphere to explore as an attempt to further understand the manifestation of creativity on a more collective and organisational scale.

There are a number of different ways in which engagement with creative work can be understood and measured. Creative performance focuses on the quality of the output of an individual's behaviour, which means that creative performance can be measured by quantity and originality if one were to consider the process of creative idea generation (Kark & Carmeli, 2009). Individual-level creativity can be explored from the perspective of intellect and cognitive abilities, personality and even the manner in which the individual interacts with the social environment. People who express personality characteristics that position them to have a higher disposition towards creativity often express openness, flexibility and an inclination for risk taking. These types of characteristics support creative ideas in a powerful way, because in order for creative ideas to be developed, there has to be willingness and openness to express, that which is new and adventurous (Carmeli et al., 2010). In this way, creativity research has drawn a significant amount of sound managerial insight from the study of the creative personality. However, in exploring individual-level creativity,

it is necessary to consider assessing this variable from alternative approaches. Important for the study of individual creative work involvement is the assessment of motivation as the fuel that enables a sustained engagement in creative work (Carmeli & Schaubroeck, 2007).

In order to understand more about the contributing factors that encourage an individual to exert physical time and energy creatively at work, a construct has been identified for assessment that seeks to measure this involvement and engagement in the creative process by establishing certain behaviours that would be indicative of the behaviour. Following this line of research, the observation of an individual's willingness to engage creatively in work tasks is identified by assessing the extent of time and energy spent creatively engaging in the tasks. The individual's physical involvement in creative work is a predictor of creativity of work; employees who invest time and energy being physically engaged and involved in creative work are the individuals who are exhibiting creative behaviour (Kark & Carmeli, 2009). Carmeli and Schaubroeck (2007) define this construct as creative work involvement, which measures the time and effort that is spent engaging in creative processes relating to work tasks. It is important to note, however, that although creative behaviour is evident in the environment, the creative performance and quality of the creative output should be assessed as a separate construct. Not much research has been done on creative work involvement, as the study of this construct is still in its early stages. Considerably much more research has been conducted on creative performance and the measurement of creative output. There thus is room for further research to be conducted on creative work involvement.

Creative work involvement is a predictor of creativity at work. Everyday creativity involves risk taking and tolerating ambiguity. Creative work involvement assesses the generation of novel ideas and original solutions or finding new ways of carrying out procedures or using equipment (Kark & Carmeli, 2009). Creative work involvement is defined as the extent to which an individual invests time and effort engaging with creative processes pertaining to work (Carmeli & Schaubroeck, 2007, as cited in Kark & Carmeli, 2009). Just as job involvement is linked to specific outcomes, so too is creative work involvement implicit of certain behaviours that would demonstrate this construct.

According to the measurement tool of creative work engagement according to Carmeli & Schaubroeck (as cited in Kark & Carmeli, 2009) it can be noted that some of the questions that have been designed to determine the degree to which a person engages creatively at work, address whether or not the individual believes that he or she expresses originality in the work tasks undertaken. Individuals who demonstrate involvement in creative work will also tend to pursue and explore ideas that are new and significantly different from the norm; this is an indication of a willingness to take risks. It is not unlikely for employees who display involvement in creative work to identify new ways of applying routine methods and practices, or even new ways of utilising equipment, depending on the nature of the job. This displays an ability to identify a new opportunity amidst systems and structures that may otherwise be considered common or functional for a single purpose. It thus is evident that it is not the work or job tasks themselves that need inherently and explicitly to demand creative thinking, but creative work involvement is assessing the degree to which the individual's involvement in his or her work demonstrates some type of creative effort and investment in the task. It can also be added that individuals who are creatively involving themselves in their work tasks will be able to experience more success and development than those who are not engaging creatively. In essence, those engaging creatively at work are likely to solve problems that colleagues have otherwise found difficult. Kark and Carmeli (2009) show that there is a limited amount of research that has been done on creative work involvement, and especially on the correlation between creative work involvement and the associated social context. In conclusion, creative work engagement can be defined as the degree to which an individual engages creatively at work, demonstrating an innovative pattern of thinking and behaving on an individual level (Kark & Carmeli, 2009). These individual actively seek new ways of completing regular task as well as finding new uses for existing equipment, processes or systems. These employees actively seek novelty and engage in risk taking; they are also likely to solve problems using new solutions that other colleagues may not have been able solve (Kark & Carmeli, 2009).

### **2.3. ANTECEDENTS OF CREATIVE WORK INVOLVEMENT**

The previous chapter illuminated the need for creativity and innovative behaviour at an organisational level as well as at a global level. There is a great need for creative

thinking and the generation of solutions for major societal problems that both maximise effectiveness and minimise the use of resources. Creativity is often defined as the generation of novel and useful ideas and is a process that often takes place within certain restrictions. Within the context of for-profit organisations, businesses should contribute towards minimising the severity of such problems through creative thinking, problem solving and innovative behaviour; this cannot be done without the fulfilment of one of the organisation's primary objective: the maximisation of profits. Innovative organisations are those that are flexible and able to survive and thrive in competitive markets according to George & Zhou (as cited in Gong et al., 2009). How then can creativity be enhanced at work? Employees are identified as the lifeblood of the organisation, without which the organisation cannot exist. The area that should be addressed therefore is how creative thinking can be stimulated within the workforce. There is an understanding that individual creativity does not operate in isolation but is constantly affected by environmental factors; the combination of and relationships between these variables are explored.

Organisational innovation is in part dependent on individual-level creative performance (Gong et al., 2009). Zhou and Shalley (as cited in Simmons, 2011) posit that creative performance on the individual level is a prerequisite for innovation at the organisational level. This verifies the importance of first understanding the various influencing factors that can successfully position creative performance on an individual level.

Creativity is universally understood to be the generation of original and valuable ideas or solutions to problems according to Amabile (as cited in Kark & Carmeli, 2009). Amabile (as cited in Wang & Netemeyer, 2004) describes how creativity should not be understood as a unique and exclusive ability or personality trait, but is best understood by acknowledging a constellation of contributing factors: cognitive capacities, the social culture or environment and personal characteristics. The engagement with creative ideas involves risk taking, as the pursuit of that which is novel requires experimentation that may lead to failure. This implies a dependency on a safe environment in which such risk taking can take place. The safe environment within the workplace is primarily orchestrated through relationships among colleagues or between subordinates and leaders, in which the individual can

anticipate acceptance and support when risk taking – and therefore potential failure – takes place.

Managers find themselves in the pertinent position of being able to demonstrate safety within the work relationship such that interactions among staff that exemplify support for experimentation can begin to cultivate a culture in which creativity is supported. In order for an organisation to effectively meet a strategic objective, such as to stimulate creative thinking, it is imperative that each of the organisational strategies is aligned to ensure that this ultimate objective is being addressed and confronted from every angle possible. Other functions within the organisation, such as the research and development or recruitment component, also need to present strategies in which creative thinking as a developmental or sought-after employee characteristic is firmly embedded. In this way, interactions and relationships between colleagues are encouraged to be supportive of creativity at work. There thus is a complex network of variables, both individual and environmental, which can be identified as important antecedents for creative work involvement.

### **2.3.1. The relationship between psychological safety and creative work involvement**

Psychological safety is defined as “an individual’s perceptions of the consequences of taking interpersonal risks in their work environment” according to Edmondson (as cited in Kark & Carmeli, 2009, p. 787). Psychological safety measures the degree to which an individual might feel comfortable and willing to take such ‘interpersonal risks’ within the team. This is in fact a shared belief that risks taken will not be met with harsh punishment or loss of credibility (Post, 2012). Cooperative learning alongside psychological safety is indeed expected to positively affect innovation by creating an environment in which new ideas are tolerated and colleagues are able to think in the same direction, despite evidence of different ideas, personalities and preferences (Post, 2012).

When an individual experiences psychological safety, he or she will be less inclined to feel that there will be extensive negative consequences in response to his/her vulnerability or trust placed in others (Roussin & Webber, 2012). As psychological safety has been described as the degree to which one may feel comfortable to take interpersonal risks, to raise concerns and to be different, it is clear that involvement

in work behaviour that is largely characterised by novelty and risk would thrive when an individual demonstrates a high degree of psychological safety. Kahn (as cited in Leung, Deng, Wang & Zhou, 2015) posits that, when an individual experiences psychological safety, the individual will not fear punishment or penalty as a result of being open and showing his/her true thoughts and ideas. One will not feel as though one's credibility or image will be at risk; thus risk taking within the work environment becomes a welcomed and encouraged behaviour.

Psychological safety thus is a state in which experimentation can take place, and new ideas can be pursued and explored freely without fear of punishment should ideas and attempts fail (Gong, Cheung, Wang & Huang, 2012). In addition, psychological safety cultivates an atmosphere in which previously established structures and systems can be challenged openly without fear of punishment. The criticism of ideas and sensitive issues can be voiced openly when psychological safety is evident (Kostopoulos & Bozionelos, 2011). Psychological safety also paves the way for authentic behaviour, and the honest expression of feelings and concerns (Roussin, MacLean and Rudolph, 2014). Without the freedom of expression that is created when individuals experience psychological safety, there may be the temptation to misrepresent information by remaining ambiguous; not only is this unhelpful for the development of innovation in an organisation, but it also leads to miscommunication, which often can result in error, frustration and conflict.

It must also be noted that psychological safety becomes increasingly important for individuals who have a high tendency to engage innovatively at work. The disposition to vocalise unconventional ideas that challenge the status quo can often be met with a response from colleagues that may humiliate, create discomfort or diminish the credibility of the employee. Psychological safety creates a safety net to ensure that, when individuals render themselves vulnerable in this regard, there is an underlying understanding that novel and outlandish ideas are to be met with curiosity, support and encouragement, as opposed to criticism and punishment (Wang, Leung & Zhou, 2014).

When exploring the factors that lead to individual creative work involvement, one can draw value from the total-system approach mentioned previously, which highlights variables such as a team climate that fuels innovation. Employee work relationships can be such that creativity and innovative behaviour grow increasingly as a culture of

openness and experimentation is established; on the other hand, these relationships can also be the primary obstruction to innovative behaviour. Carmeli and Spreitzer (2009) describe the construct of connectivity as open relationships that foster an appreciation for diversity, such that input variety is perceived as learning and development opportunities. A team possesses connectivity when the value of the relationships is found in the opportunity to learn new things and explore new directions. The construct also implies that psychological safety would be present within the environment. This focus on open relationships and appreciation for the diversity that presents us with connectivity, as described by Carmeli and Spreitzer (2009), is important for this current study. This presence of safety within a team as an element that fuels creative work involvement is explored in greater detail through the construct of psychological safety. Edmondson (as cited in Wong, Tjosvold & Lu, 2010) posits that psychological safety is a critical condition that needs to be present in order for learning, and the concurrent experimentation and trial and error that take place, to flourish within an organisation.

Psychological safety also refers to the extent to which an individual feels comfortable to render himself vulnerable (despite potential negative consequences of risky behaviour) without fear that the consequences will be negative (Kark & Carmeli, 2009). Innovation requires proactive behaviour expressed through a willingness to exert greater effort at work than what is required. The innovator challenges the status quo by conceptualising and seeking ways to apply a new strategy or idea – naturally, this type of behaviour could receive immense resistance and disapproval (Carmeli & Spreitzer, 2009). This illuminates the importance of fostering a safe and trusting environment in the team if innovation is to be encouraged. The risk involved in novelty is likely to challenge the support for innovation in the team – similarly, the individual is likely to consider the reactions or consequences within the group before attempting to experiment with new ideas at work. In exploring new ideas and demonstrating risk taking at work, an individual is rendering him- or herself vulnerable to the team. Action and decisions may be influenced by thoughts concerned with how the individual may feel judged by colleagues regarding his/her new ideas. The support and safety in a team are also tested when the members render themselves vulnerable by asking for help, sharing ideas and presenting



themselves as being different. With creative work involvement as the core focus of this study, why then would it be important to explore psychological safety in a team?

Creative work involvement indicates the degree to which an individual invests time and effort engaging with creative processes. However, while we may commit time and effort to such processes, this does not guarantee that creative outcomes will be achieved, because external elements such as support from leaders can have a meaningful impact on how creative potential is managed and released in the work environment. In other words, while creative performance is associated with the outcome of creative processes, it is not the same as creative work involvement, which is associated with time and energy exerted in creative processes or tasks.

As creative work involvement is a predictor of creativity at work, it would be important to determine how best to facilitate engagement with creative processes. These processes include idea generation and problem solving (Carmeli et al., 2010). Everyday creativity involves risk taking and tolerating ambiguity, and creative work involvement is measured in part by assessing the generation of novel ideas and original solutions, or by finding new ways of carrying out procedures or using equipment (Kark & Carmeli, 2009). The focus on novelty implies the exploration of an idea or processes that may never have been used before, or that are used in a completely new way. This suggests that some degree of risk forms part of creative work involvement. If we are to assess factors that cause variance in involvement in creative work across individuals, it would be appropriate to explore factors that enable creative work involvement to be consistent or more easily accessible.

Risk taking and challenging the status quo may cause discomfort in some people – the consequences can only be speculated upon. Thus it would be appropriate for the environment in which creative work involvement takes place to be supportive, in some way, of the risk-taking aspect of novelty. This is especially true when emphasising the fact that creative work involvement on an individual level, within a team function, raises concerns about the mutual understanding of behaviour, acceptance and support in the environment.

Failure is a positive and crucial component of creativity. The process of experimentation is implicit in failure – the familiar ‘trial and error’ that suggests that the desired outcome can only be achieved through a process of stepping-stone



failures and successes. Moreover, creative people are often found to be highly amenable to radical ideas and tend to find value and pleasure in exploring such concepts. They are also flexible, open and tolerant of risk (Carmeli et al., 2010). These personality traits alone are highly indicative of the necessary processes that one would need to engage with in order to generate a creative output. However, these processes may not be favoured by all, as the element of uncertainty and anxiety regarding the unknown can prove to be a trying experience. The temptation to reach an immediate conclusion or to select the first workable solution that comes to mind, whilst rejecting newer ideas prematurely, is an obstruction to the aspiring innovator and to creativity (Mumford, 2000). Tolerance of ambiguity is crucial to the process. Therefore, creative work cannot thrive if employees are working in an environment in which they feel that punishment and disappointment are the consequences of innovative behaviours. On the other hand, when an individual feels a sense of support for experimentation and where risk and error form part of a learning orientation, there will be a safe environment and desire to engage in such creative processes. Not only does this have a positive impact on learning, but innovative behaviour is also affected positively. When engaging in innovative behaviour, there often is a high risk that new and untested methods may not be successful; risk of failure is thus evident (Leung et al., 2015). Therefore, innovative behaviour requires an environment in which risk of failure is supported well; psychological safety as described above seems to be present in an optimum climate in which risk taking, learning and innovation can thrive (Kark & Carmeli, 2009). Thus it can be hypothesised that individuals who experience high psychological safety within their team also demonstrate a high degree of creative work involvement.

A significant amount of research has been done on brainstorming and shows that this idea-generation technique can be highly unproductive if the team climate does not offer adequate support, tolerance of error and trust. In addition, hindrances such as social loafing, group thinking, ineffective communication and power struggles obstruct the potential value of brainstorming according to Guastello (as cited in Mumford, 2000). These obstacles can be overcome when brainstorming is done electronically, as this eliminates the social influences involved in the process – this allows groups to demonstrate higher levels of creativity (Mumford, 2000). It thus is clear that creativity is hindered, even through mechanisms such as social loafing,

when the team climate is not inclusive, fully engaged or tolerant of error. The degree to which an individual feels comfortable to be different in a group will greatly affect his or her contribution.

Without these appropriate conditions, team members may feel as though their career or status could be at risk if the quality of their suggestions does not measure up to the team's expectations (Kurtzberg, 2005). However, accumulating a quantity of ideas is one of the most crucial considerations during the idea-generation process. Thus, team creativity is stifled if the individual does not find him- or herself in the ideal climate for creativity (Kurtzberg, 2005). This illuminates the importance of psychological safety for the harnessing of individual creative potential. It also suggests that the team climate can have a significant effect on individual creative work involvement. Psychological safety draws on the effect of the team on the individual.

A number of scholars have explained how learning at work or school is not a process that takes place in isolation. While there is value in spending time in isolation to process information, a large portion of learning happens when we collaborate, ask each other questions, explore new ideas and process together in situations where we are able to observe one another's thought process, for example. In order to fuel learning, it would be necessary to develop a learning orientation or culture in the team, and ideally in the organisation as a whole. However, in order for information and knowledge to be shared and exchanged freely, employees require a sense of trust and safety in the team, which will further enable them to ask questions and collaborate effectively. In essence, social connections are important for learning (Carmeli & Spreitzer, 2009).

Creative collaboration also relies on the free and easy exchange of knowledge, ideas and information. Psychological safety, which provides the appropriate space for learning and information exchange to take place, is an effective way to encourage individual engagement in creative work. The need for psychological safety is ever present when exploring how creativity as a resource is fuelled through collaboration and the learning orientation at work. The free flow of information and willingness to share ideas is likely to be obstructed if employees feel mistrustful of their team. Constructive collaboration is characterised by an "open exchange of ideas" (Mumford, 2000, p. 331). Psychological safety measures, in part, the degree to

which an individual fears that efforts at work may be undermined by colleagues, as well as the degree to which help can be sought from within the colleague group. This draws on collaborative behaviour, in which diverse skills are harnessed for creative efforts. It thus is clear that high psychological safety can be perceived as fertile ground for creativity at work. It thus would be appropriate to explore whether high psychological safety can be associated with a high degree of creative work involvement.

Psychological safety has also been shown to have a positive impact on team performance and learning when the task environment is one that is knowledge intensive (Sanner & Bunderson, 2014). A knowledge-intensive task setting demonstrates complexity, creativity and sense making; evidence of these variables creates a more conducive environment for psychological safety to lead to learning (Sanner & Bunderson, 2014). More specifically, tasks that require a greater diversity of skills (complexity) involve the generation of novel ideas or methods (creativity), and tasks that require one to make sense of ambiguous information (sense making) are termed knowledge-intensive tasks. Sanner and Bunderson (2014) elaborate on the effectiveness of psychological safety in leading to learning when tasks of this nature are present. It is imperative for the purpose of this study that one acknowledges that creativity is one component that describes a knowledge-intensive task environment. Sanner and Bunderson (2014) found that these tasks allowed for psychological safety to engage learning and performance; this indicates a further support for the link between creativity and psychological safety. While this study explores psychological safety as an enabler of creative work involvement, it is interesting to examine how Sanner and Bunderson (2014) also found that tasks that required creativity allowed for psychological safety to positively impact learning and performance. There thus is significant reason to explore how the presence of psychological safety, in turn, can fuel engagement in creative tasks.

Experiential learning has been included as a process that is further enabled by the presence of psychological safety (Sanner & Bunderson, 2014). This learning process engages experimentation and mutual reflection on and sharing of perceptions. Edmondson (as cited in Wong, Tjosvold & Lu, 2010) posits that psychological safety is a state that is imperative for learning because it enables employees to feel accepted, supported and appreciated. Risk taking can take place within a safe

environment, without the negative consequences, such as blame and losing credibility amongst colleagues, which often follow. This environment offers a space in which to learn innovative skills that can be challenging to achieve (Wong, Tjosvold & Lu, 2010). The highly experimental approach that dominates this learning process often implies a collaborative process, with tasks that tend not to be focused on routine and objectives that tend to be ambiguous and unclear. These factors are highly characteristic of creative work tasks in which novelty and experimentation drive the process. Thus the fact that psychological safety has been shown to be an enabling factor for experiential learning to thrive is indicative of the positive affect that psychological safety could have on sustaining and encouraging creative work involvement.

Gong et al. (2012) did a study in which individual creativity and the influencing variables (employee creativity, information exchange and psychological safety) were explored. Firstly, the study showed that individuals who were more proactive also tended to be more creative, because proactivity enabled the individual to obtain a myriad of resources that could be utilised in problem solving (Gong et al., 2012). Proactive individuals are less bound by situational factors; they accumulate information from a variety of sources and are not limited by the information offered by just one colleague (Gong et al., 2012). Moreover, these individuals tend not to be limited by colleagues at all – they are likely to draw information from unsuspecting sources outside of the organisation, thus allowing them a greater variety and number of tools from which to draw to engage in creativity later according to Crant (as cited in Gong et al., 2012). In short, the proactive employee displays an excellent capacity to exchange information, which is instrumental in the development of social networks and interpersonal relationships.

Experiencing trust within work relationships allows employees to feel supported, especially during setbacks or failures (Gong et al., 2012), whilst also allowing for the effective facilitation of creativity within an individual. Engaging creatively at work often involves some risk-taking behaviour; supporting and trusting relationships are thus crucial within this context (Gong et al., 2012). Psychological safety is closely connected to trust, as both function as support mechanisms within a risk-taking environment (Roussin, 2008). Unsupportive work environments disable employees from feeling comfortable to pursue creative ideas for fear of being

ostracised or identified as someone who is prone to constantly presenting challenges and creating counter approaches to the norm (Gong et al., 2012).

Psychological safety presents much of the same supporting structures in which individuals are made to feel as though they can be themselves, be different and present new ideas to the team and manager. Psychological safety is a state in which a person feels that he or she will not be ostracised for being different, but rather that risk taking would be a praiseworthy behaviour. This study also explored how proactive behaviour and subsequent knowledge sharing and trust allow a fertile environment in which creative behaviour can take place. This is further emphasised in a study demonstrating how, in terms of research and development (R&D) in which the levels of risk, experimentation and uncertainty are high, there is a significant need for psychological safety. Research has shown that, even in the case of R&D teams in which uncertainty and error are likely connected, psychological safety is positively related to innovation (Gu, Wang & Wang, 2013). This is in alignment with other literature, which suggests that psychological safety promotes a climate in which relationships allow for the promotion of novel and untested ideas (Kark & Carmeli, 2009).

In addition, it must also be noted that psychological safety has been found to be an important factor that orchestrates learning (Wong, Tjosvold & Lu, 2010). Learning itself is acknowledged to be a significant element for managers to prioritise if their desire is to build organisations that generate innovative solutions, despite the pressure as a result of competition by rival firms. Learning relies on the experience of error, so that success can be identified clearly. Thus, the presence of psychological safety is crucial to accommodate learning and the subsequent release of innovative solutions at work (Carmeli, Gelbard & Reiter-Palmon, 2013). Effective learning is well supported by opportunities for reflection on how tasks can be improved or modified; thereafter, experimentation with new methods can take place and creative ideas can be enforced for the benefit of the organisation. This type of reflection is referred to as reflexivity, and describes the act of processing information for the purpose of identifying flaws and strengths in order to improve upon them (Carmeli et al., 2013). It also is crucial that there is evidence of psychological safety in order for reflexivity within the work environment to take place.

The experience and process of reflexivity allows for creativity and experimentation to grow. This points to the crucial relationship between psychological safety (which must be present for reflexivity to be encouraged) and creative work involvement according to Edmondson (as cited in Carmeli et al., 2013). Edmondson (as cited in Carmeli et al., 2013, p. 121) posits that “reflection is at the heart of the learning process”. Individuals are more likely to reflect upon task error and innovative ways for improvement when the environment is a safe one in which new ideas can flow openly and without judgement. Individuals need to feel comfortable and secure to speak against existing systems, draw attention to shortcomings and, in this way, expose and render themselves vulnerable to the rest of the group. It is the presence of psychological safety – the state of mind in which a person feels comfortable to engage in this way without fear of punishment or loss of credibility as a result of the risk – that paves the way for experimentation, learning and creative behaviour (Carmeli et al., 2013). There thus is a close and vital relationship between psychological safety and the space that this state creates for creative work involvement.

Interestingly, Schepers and Van den Berg (as cited in Simmons, 2011) did a study in which organisational justice was explored alongside creativity. The results reflected that teams that expressed high levels of creativity also perceived high levels of justice within the organisation’s procedural systems. In addition, teams that expressed high levels of creativity also perceived their teams to be cooperative. The perceived justice and cooperation reflect the employee’s observation of fairness, as well as a justified and uncorrupted approach within the management and a sense of collaboration within the work team. This indicates a safe environment in which one feels that one will be dealt with in a fair and just manner; one can anticipate managerial responses and consequences. It thus is suggested that this would contribute towards the shaping of an environment in which a person feels comfortable to be sincere and openly express ideas that may be new or different; there would be an understanding that procedural justice is consistent, thus allowing space for experimentation and exposing oneself as different.

This is further supported by Thibaut and Walker (as cited in Simmons, 2011), who posits that procedural justice allows employees to feel that their voice and perspective are being heard, which resonates with the way in which psychological

safety creates a secure environment for varying views to be exposed and experimented with, without fear of judgment. Edmondson (2004, as cited in Roussin, 2008) posits that psychological safety generates an environment in which one feels comfortable to render oneself vulnerable by putting oneself on the line by expressing different and divergent ideas. Thus it is suggested that, just as the presence of procedural justice creates an environment in which creativity can flourish, so too will psychological safety lend itself to an environment that allows creative behaviour to flourish. Interestingly, it can be added that individuals who measure high on openness to experience as a personality trait may experience the negative impact of low psychological safety even more severely. The lack of psychological support to engage in risky behaviour, explore and experiment with new ideas and expose oneself as different reflects a lack of support for some of the more core dispositions for a person who measures high on openness to experiences. These individuals show a high tendency to be imaginative, display divergent and independent thinking and, as the term suggests, are highly responsive and engaging with novelty. Thus, low levels of psychological safety can be understood to be detrimental for creative work involvement; this negative effect is experienced with even greater intensity by individuals who would be most inclined to generate large amounts of creative output. This is emphasised by McCrae and Costa (as cited in Simmons, 2011), who state that individuals who are high on openness to experience also are more likely to challenge the status quo and, as a result, will experience the deficiency of psychological safety with greater intensity. The urgency for psychological safety to be understood and actively stimulated in the workplace for the successful development of creative work involvement cannot be emphasised enough.

Moreover, research shows how more cooperative teams are associated with higher levels of creativity within a work environment; this points towards the presence of psychological safety for the following reasons: Teams that are cooperative include individuals who tend to yield to each other's requests, working together in a collaborative fashion. There is a distinct element of collaboration involved in cooperative teams. The state of psychological safety can be identified within an individual who feels that his or her team is supportive and will not operate in a way that intentional harm will be done.



Psychological safety is also identified in individuals who feel that, if experimentation or mistakes happen to take place, they will not lose their credibility and that permanent damage will not be done to their image. This type of support is characteristic of teams that demonstrate cooperative behaviour. Thus, in the same way that cooperative teams have been shown to be associated with creativity within the work environment, so too can one suggest that the presence of psychological safety within a team assists in the shaping of an environment in which creativity can flourish. Moreover, Kahn (as cited in Vinarski-Peretz et al., 2011) posits that individuals are more likely to engage creative at work when they perceive a sense of connectedness, mutuality and positive regard with others. This emotional connectedness is closely linked to the state of psychological safety in terms of which individuals perceive the environment as one in which vulnerability, openness and exposing oneself as different will not be met with harsh feedback or punishment.

There thus is a distinct need for an encouraging and supporting environment in which interaction between employees displays trust and openness, such that employees do not feel a sense of control and manipulation, as this can be destructive for the fluidity of creativity in the work environment (Simmons, 2011). On-going encouragement and positive feedback can have a positive effect on an individual's motivation to engage creatively (Simmons, 2011). This further emphasises the importance of psychological safety for the successful outflow of creative work involvement. We thus can hypothesise the following:

H<sub>1</sub>: Psychological safety has a significant positive effect on creative work involvement.

### **2.3.2. The relationship between inclusive leadership and psychological safety**

Inclusive leadership refers to a leadership style in which the leader remains open, accessible and both physically and emotionally available (Nembhard & Edmondson, 2006). These leaders are known for welcoming and encouraging the individual to make unique contributions; there is a genuine interest that is communicated by the leader to the employee regarding the employee's personal view and input. By demonstrating sincere openness and confessing shortcomings, leaders create a sense of vulnerability that, in, turn allows team members to reciprocate by demonstrating openness and vocalising mistakes. It later will be discussed how this



openness also paves the way for the demonstration of creative thinking (Hirak et al., 2012).

Inclusive leaders also promote an unconditional request for individual input from staff – there is a distinct indication that, regardless of the quality of the contribution or the degree to which the contribution may challenge the status quo, the leader will invite and encourage the contribution without imposing any form of sanction in response to the contribution made. Inclusive leaders invite employees to express dissatisfaction or concerns regarding processes or practices that are not functioning successfully. Carmeli et al. (2010) also discuss how inclusive leaders sincerely communicate a willingness to listen to employees, an interest in pursuing novel ways of executing work tasks, and actively expend time and energy investing in potential new ideas. Inclusive leaders ensure that employees are aware of the importance of their contribution; these leaders would thus communicate an open invitation to welcome individual input (Carmeli et al., 2010). There is a clear indication that the environment facilitated by the leader is safe for the open expression of comments or ideas that may challenge those of the leader, team or organisation. In this way, inclusive leadership offers support, cultivates a culture of trust within a team and exhibits qualities of benevolence (Carmeli et al. 2010).

Leadership within organisations has been a central area of research; the way in which subordinates relate to the leader has been of particular importance (Carmeli et al., 2010). Uhl-Bien (as cited in Carmeli et al., 2010) posits that we should study the process of leadership instead of merely the leadership style or interactions between the leader and follower. Relational leadership research thus is identified as an important area of focus, as this approach is centred on how the social reality within the organisation is constructed. This affects the social order as well as certain perceptions, values and attitudes, behaviours and philosophies. The current study's exploration of leadership falls within the category of a relational leadership style. Instead of exploring the leader-follower relationship through the assessment of individual perceptions, behaviour and cognition, relational leadership uses the actual relationship as a measurement and area of analysis.

Leadership has a powerful influence when it comes to the orchestration of creativity and innovation at work (Carmeli et al., 2010), where leaders even has been considered to be reliable predictors of the successful outflow of creativity within the

work environment (Volmer, Spurk & Niessen, 2012). This is particularly true in an intensive environment in which instability and uncertainty are high; leader support of new ideas and encouragement of imaginative thinking become increasingly important as the organisational environment intensifies (Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2013). Leadership support creates an environment in which creative problem solving is encouraged and strengthened and where the overall growth and competitive advantage of the organisation benefits (Carmeli et al., 2013). Alongside the necessity for decision-making, the leader's role is also largely to inspire, motivate and gather energies around a common goal within the organisation. This research study aims to explore creative work involvement within organisations, and it thus is necessary to explore the role of a leader in igniting this type of behaviour. If leaders are appointed (in part) to facilitate effective performance in teams, what kind of decisions could a leader make that might ignite and sustain creative work involvement?

The leader needs to model the type of behaviour that he or she desires to see materialise within the workforce; this is a vital component, as it communicates an expectation and encouragement for followers to explore and exhibit the same behaviour. Creativity can also be facilitated through multiple tangible means, such as time and funding for alternative creative projects, and relevant information or interventions to further enrich creative performance within the organisation. An additional important leadership responsibility is the provision of psychological support that inspires and motivates the workforce to engage creatively, even with daily routine procedures. Providing relational support, instilling vision and ensuring that employees' creative confidence is developed are additional ways in which leaders can support creative, untraditional performance (Baer, Oldham, Jacobsohn & Hollingshead, 2008). Lastly, leaders are in the strategic position to be able to orchestrate an innovative climate in the workforce (Mumford, 2000).

In the light of the relational leadership focus of this study, pertinent areas of focus include motivation, support and climate. Creative work involvement requires effort and can often be time-consuming, as it requires a greater exertion of effort in any particular task. The individual is encouraged not to settle for the first few solutions or ideas that come to mind, but rather to engage his or her curiosity and strive to discover something that could be of greater originality and relevance. Choosing to

act in a habitual way is often far easier, less time consuming and requires less motivation; it therefore is a great distraction from highly creative engagement (Madjar & Greenberg, 2011).

Motivation thus is a crucial component. Research shows that employee motivation to engage in creative work and demonstrate creative behaviour is consistently related to leader support (Carmeli et al., 2010). The quality of relationship between the leader and the follower is a crucial facet of the support structure that stimulates creative behaviour; individuals who spend time engaging creatively at work are likely to display creative behaviour (Kark & Carmeli, 2009). Leader support of decisions and action taken by the employee, the availability of information, the willingness of leaders to consult the employee, and the employee's trust of his/her leaders are all crucial components of the supportive relationship between the leader and team members (Carmeli et al., 2010). With respect to the ultimate objective of uncovering factors that facilitate creative work involvement in the individual, it is important to note that employee creativity has been shown to be supported by leaders who are non-controlling, supportive of innovation and foster positive professional relationships with their followers (Carmeli et al., 2010).

In facilitating a supportive relationship, leaders are also in the strategic position to orchestrate a supportive climate within the team. This reflects the understanding that leaders set examples for their followers according to Jaussi & Dionne (as cited in Carmeli et al., 2010). By fostering a supportive climate that is open, in which followers are willing to trust each other and their leader and in which there is an overall positive orientation in the group, the leader places the team in a position in which they are able to innovate (Carmeli et al., 2010). These findings validate the importance of leaders when it comes to creative work involvement. Importantly, relational leadership has been identified as a particularly conducive style for the orchestration of creativity (Carmeli et al., 2010). Moreover, inclusive leadership has been identified as appropriate for the facilitation of creativity at work, as the extensive support offered is conducive to the development of a climate which is conducive to creativity.

Fostering supportive, trusting and positive relationships between the leader and workforce is found to be integral to the development of a team climate for creativity. Just as supportive leaders are conducive to the fostering of supportive team

climates, these climates create a fertile environment for creative performance on an individual level to thrive. Therefore, the role of the inclusive leader in stimulating creative work involvement is identified as a fundamental component of this research study, which aims to explain variance in creative work involvement. This raises the question of the effect that an inclusive leader might have on a team culture that could be conducive to creativity at work.

Evidence of a supportive team culture becomes significant when exploring the degree to which an individual feels comfortable to innovate within his or her environment. The strength of support within a culture is tested when team members take risks (Mumford, 2000). Inclusive leadership assesses the degree to which a leader is willing to explore new avenues for growth; this holds the implication of risk taking. Moreover, supportive team climates create an environment in which the discussion of tough issues is permitted. There thus are several indications that suggest the possibility that inclusive leaders would be great contributors to team climates that display high support and safety. An appropriate construct that adequately encompasses the notion of the supportive team climate is psychological safety: “Edmondson (2003) found that effective team leaders were able to facilitate learning and promote innovation by creating a climate for psychological safety” (Kark & Carmeli, 2009, p. 788). It thus is suggested that inclusive leadership plays a significant role in the development of psychological safety in teams. Firstly, however, it is crucial to explore psychological safety to a deeper extent.

The level of psychological safety within the group is largely affected by the leader, the climate he or she creates and the degree to which there is tolerance for novelty, risk and ambiguity, which are vital for creativity to occur (Carmeli et al., 2010). Psychological safety provides a safety net for risky ideas to be explored. The environment would be one that allows employees to feel comfortable to be themselves and confident to ask bold questions, pitch new ideas and experiment within the space. The value of psychological safety for the development of creativity in the individual is evident when we consider risk taking and the need for a supportive culture to contain or facilitate such behaviour. Ford (as cited in Madjar & Greenberg, 2011) suggests that some employees may expect engagement in innovative behaviour to challenge their levels of comfort due to the degree of risk taking or possibility for failure that takes place.

Inclusive leaders are inclined to encourage new ventures and novel ideas. It thus seems that psychological safety would be well facilitated by the inclusive leader, as this type of leader would be open to exploring new ideas and thus would encourage a safe environment in which to do so. Moreover, teams that are characterised by high psychological safety, and therefore a high tolerance of diversity and risk, would be led by someone who promotes a similar belief and ethos within the group. There thus are a number of close associations between the evidence of psychological safety within a team and the influence of inclusive leadership.

It must be stipulated that it is the leader who motivates, inspires and accounts for tangible decision making on the management of certain resources. Therefore we can posit that the inclusive leader who is open, available and accessible is able to orchestrate a supportive team climate that demonstrates psychological safety. It is for these reasons that it can be suggested that inclusive leaders are significant contributors to the orchestration of psychological safety in teams. On investigating these two constructs alongside each other, the following have been observed:

Psychological safety can be leveraged through leadership action, according to research by Edmondson (as cited in Carmeli et al., 2010). In addition, when leaders demonstrate openness, accessibility and availability, it is probable that they effectively facilitate an environment in which psychological safety can develop (Carmeli et al., 2010). This is done by encouraging group members to pitch their new ideas and experiments to them – through this they encourage risk taking. These leaders create an environment that communicates to their followers that they will not be ill-treated or ridiculed for engaging in risk taking; this is fertile ground for psychological safety and experimentation to grow.

The inclusive leader actively enforces a sense of security by being open to new ideas (Carmeli et al., 2010). If employees know that their leaders are open and accessible, they will be less resistant to pitching new ideas and demonstrating risky behaviour that could lead to innovation. The leader who is open and available will create a channel through which employees can experiment with norm-defying ideas. Leader accessibility creates an opportunity for the development of creative ideas (Carmeli et al., 2010). In addition, research has shown that leaders who ensure that they make their team members' voices heard and appreciated, and who ensure that members feel secure and comfortable to express themselves, cultivate psychological

safety within the group (Carmeli et al., 2010). Research shows that highly authoritative leaders who emphasise a rigid hierarchy by offering little support and exhibiting a defensive style of communication do not create a safe space in which team members can share their views openly and without negative feedback (Carmeli et al., 2010). Leaders who demonstrate mirror-opposite behaviour, such as encouraging employees to be open about their concerns and challenges, offer a more supportive and welcoming environment in which employees will experience a higher level of psychological safety in their daily interactions according to Nemhard & Edmondson (as cited in Carmeli et al., 2010).

The quality of the relationship between the leader and his or her subordinate is of great importance when considering the presence of trust and psychological safety. Roussin (2008) shows how individual-level discovery sessions (or contact sessions), in which the leader is better able to connect with the individual, are far more effective than group-level discovery sessions between the leader and the team. This discovery process allows leaders to develop more trusting relationships with individuals through honest conversation in which there can be an open, meaningful and systematic way to communicate perspectives and be vulnerable about feelings within the group (Roussin, 2008). These one-on-one discovery sessions are far more effective in building psychological safety within the team than group-level sessions, which involve an independent facilitator; this is because, in order for group-level sessions to develop trust and uncover perspectives effectively, there has to be encouragement for this to take place. Some employees may refrain from displaying their true emotions within a team context (Roussin, 2008). More importantly for the purpose of this study, openness from the leader is immensely important to facilitate vulnerability and allow an individual to experience a state of psychological safety at work (Roussin, 2008). Openness thus again is indicated to be a significant preceding factor for the effective manifestation of psychological safety.

Edmondson (as cited in Roussin, 2008) suggests that psychological safety and trust are indeed closely connected, as the level of both states is largely dependent on the existence of threats and the level of openness that is exhibited in an environment. Psychological safety predominantly deals with unspoken beliefs or collective understanding about the expected result for showing oneself to be different. This can take place in the form of owning up to a mistake, asking questions, reporting the

errors of others and suggesting new ideas, all of which require that an individual separates or exposes him or herself in some way. Edmondson (as cited in Roussin, 2008) posits that trust between leaders and followers can be considered as one of the most significant influencing factors on psychological safety. The role of the leader is thus hypothesised to be of immense importance and influence in the level of trust and openness experienced by the employee. Inclusive leadership is comprised of openness, accessibility and availability, all of which are characteristics that welcome, invite and create space for an individual to express his or her concerns, raise questions and problems and suggest new ideas. For these reasons, this leadership style is hypothesised to be closely connected to psychological safety. Interestingly, transformational leadership has been identified as a leadership style that actively motivates and encourages individuals to achieve and develop in their skill or work. Transformational leaders have been found to cultivate motivation for creative thinking and behaviour and, whilst there has been a larger base of research that has been produced on transformational leadership, there has been less exploration of inclusive leadership, which also is important in influencing conditions which are most conducive to creativity.

Psychological safety can be explored through a number of different structures and variations; there are different types of psychological climates that can be explored. Wang et al. (2014) assessed the influence of the psychological climate for communication safety in a study that aimed to explore a dispositional approach to psychological climate: that is, that the psychological climate is largely dependent on the individual's personal perception and experience thereof. The concept 'psychological climate for communication safety' refers to the degree to which an environment is open and safe for individuals to communicate their ideas, thoughts or concerns regarding an issue. This description is closely connected to the psychological safety that is explored in the current study.

An environment in which an individual is able to communicate freely, without fear of judgement and negative consequences, would be an environment that offers a high level of psychological safety. In short, this environment would be considered "safe for open communication" according to Gibson & Gibbs (as cited in Wang et al., 2014, p. 493). The presence of harmony enhancement (individual behaviour that reflects the belief that interpersonal harmony is valued and considered to be beneficial for teams



and the individual) has a positive relationship with innovative performance, through the mechanism of a psychological climate for safe communication. This finding further supports the suggestion that the presence of psychological safety within an environment (in this case, specifically for open communication) can strengthen and further facilitate innovation within the team and organisation (Wang et al., 2014). The manner in which a leader interacts with the subordinate when communicating requests, giving praise and feedback and managing the relationships, will indicate either high or low levels of psychological safety for an individual. The higher the level of open communication, the higher the level of the psychological climate for communication safety. The leader holds the position of authority from which the tone of the interaction can be navigated; leaders who are open, available and accessible will communicate in ways that demonstrate this openness, thus allowing psychological safety in the area of communication to develop. Whilst the study performed by Wang et al. (2014) explored the psychological climate for communication safety, this is identified as one type of psychological safety and examines the same psychological state explored in the current study. For this reason, these findings support the hypothesis that inclusive leaders contribute towards the development of psychological safety within an environment.

Carmeli et al. (2013) discuss how leader motivation and the encouragement of creativity can assist in generating an environment and willingness for employees to engage innovatively at work – one in which leader inclusiveness has been identified as crucial for the orchestration of conditions that are conducive to creative behaviour (Carmeli et al., 2010). In addition, where the leader takes ownership of stimulating team members intellectually, there also is evidence of encouraging divergent thinking, challenging the status quo and tending to problems from a completely new angle – all of which are vital for creative work involvement to flourish (Carmeli et al., 2013). A dominant characteristic of inclusive leadership is the element of openness; thus, where there is potential and desire within various employees to behave and think creatively, the inclusive leader will not only tolerate divergent thinking and challenging of the status quo, as mentioned above, but will shape an environment in which this type of behaviour is actively encouraged.

Individuals who engage creatively under the supervision of an inclusive leader are also engaging in risk taking and are actively ‘exposing’ themselves in this capacity.



There must therefore be a strong presence of openness and acceptance of new ideas that is created when inclusive leaders are overseeing a team if individuals feel comfortable to appear different and to make mistakes. This, in essence, describes psychological safety, a state in which individuals do not experience fear that their credibility, career or reputation will be influenced negatively as a result of challenging the status quo or presenting themselves as different. This is further supported by Edmondson's (as cited in Carmeli et al., 2013) explanation of how a leader can operate as a coach; this implies high levels of support and trust from the leader so that new ideas are not met with defence, but rather with openness. Team members who are exposed to such a leadership style are likely to perceive the environment as a safe one (Carmeli et al., 2013).

Therefore the following can be hypothesised:

H<sub>2</sub>: Inclusive leadership has a significant positive effect on psychological safety.

### **2.3.3. The impact of openness to experience on creative work involvement**

In exploring creative work involvement it is crucial to learn more about the individual's disposition towards creativity. The interaction between the individual and his or her environment is crucial – this interplay can either enhance or stifle creative engagement at work. However, without some type of inclination, interest or capacity to perform creatively, a creativity-conducive environment cannot yield results. We thus explore the importance of certain individual-level factors within the context of engaging individual creative work engagement.

George and Zhou (2001, p. 514) describe openness to experience as “the extent to which individuals are imaginative, sensitive to aesthetics, curious, independent thinkers, and amenable to new ideas, experiences and unconventional perspectives”. They are inclined to be broadminded and original in their thinking, with a preference for that which is untraditional (Baer et al., 2008). Moreover, individuals who measure high on openness to experience also tend to be cultured, intelligent, artistically sensitive and original (Barrick & Mount, 1991). They also are inclined to actively seek new and unconventional ways of carrying out daily tasks. Where there may be need for new tasks to be learned or where change demands adaptability, individuals who measure high on openness to experience are likely to be willing to adapt accordingly, assess themselves and monitor their progress in accordance with

the necessary learning that needs to take place (Le Pine, Colquitt & Erez, 2000). These individuals enjoy engaging in intellectually challenging problems and are inclined to pursue activities, thoughts and ideas that are new and unconventional; they display a desire to explore novelty (Le Pine et al., 2000). As a result, these individuals are also drawn to variety and even express a need for variability. This reinforces the fact that the significant factor relating to individuals who measure high on openness is that they are not only tolerant, but actively pursue novelty in ideas and feelings.

Madjar and Greenberg (2011) even suggest that conforming is a hindrance to radical innovation. Open individuals demonstrate a personal preference or need for unfamiliar situations, thus employees who are more open to new experiences also possess a greater range of cognitive resources, feelings and perspectives. This encourages a willingness to experiment with new ideas and unconventional approaches, whilst challenging the status quo. Individuals who are open also demonstrate cognitive capacities to process a broader spectrum and grouping of information, even if this information is unfamiliar (Baer et al., 2008).

Examining creativity in the individual should include an assessment of creative self-efficacy, thought processes and openness to experience. While this vast array of constructs cannot all be included in the current study, the latter construct will be explored further. Although there are a number of variables that can be harnessed to stimulate creativity at work, an individual's willingness to engage in creative work is affected by his or degree of openness to experience. The study of the creative personality shows that this construct is not domain specific, but rather is a general depiction of a person's creative abilities in the light of his or her unchanging personality (Silvia, Kaufman & Pretz, 2007). This suggests the importance of actively manipulating the external environment to stimulate creative work involvement; there are far fewer areas of influence on an individual level.

An abundance of research refers to the necessity for an organisation to employ individuals who can generate innovative ideas (George & Zhou, 2001). The study of individual factors and how these can thus be harnessed for organisational innovation is crucial. This is further supported by Amabile's (as cited in George & Zhou, 2001, p. 513) description of an innovative organisation as the "successful implementation of creative ideas".

Openness to experience has been identified as one of the most consistent personality factors associated with creative behaviour. This ability to combine seemingly unrelated information and to harness the value of the contributions made by others often leads to the generation of creative ideas (Baer et al., 2008). There is significant reason to consider the importance of openness to experience when exploring individual creative work involvement. Employees who engage in creative tasks demonstrate originality in their work, which suggests imaginative thinking. The independence of thought found in those open to new experiences resonates with the risk-taking behaviour and the inclination to present ideas that are revolutionary in a specific field, as identified in employees who engage in creative work. Openness to experience thus is considered to be a highly important construct for creative work involvement (George & Zhou, 2001; Kark & Carmeli, 2009). While openness to experience is a fixed personality trait, further knowledge on how this correlates with creative work involvement can inform recruitment strategies within organisations. However, is it sufficient merely to recruit creative employees and expect innovative behaviour and output to increase? This is an integral question to ask, as teams perform better when the team members display openness to experience (Post, 2012).

Regardless of whether or not an individual displays open-mindedness or an inclination towards the creative personality, natural tendencies towards creative thinking and innovative behaviour cannot add value to a company or team that refuses to allow this behaviour to manifest (George & Zhou, 2001). This is significant for the current study, which explores the factors that orchestrate creative work involvement. Factors such as positive feedback should be present within the team environment. Negative feedback is likely to be destructive to creativity at work. This is especially true for employees who display high openness to experience. As these candidates also display heightened sensitivity, negative feedback could be particularly detrimental for creative work involvement. The nature of the work (algorithmic versus heuristic) is also likely to influence creative work involvement in employees who are more open to experience. Thus there are a variety of factors in the environment that influence the progress of creativity; the mere recruitment of an innovative thinker is not sufficient if we are expecting an overall increase in innovative behaviour in the organisation.

Openness to experience allows employees access to a greater selection of emotions, perceptions, ideas and thoughts than those who are less likely to be open to experiences. As a result of the broader extent of experience, employees who are more open to experiences are likely to be more adaptable to change (George & Zhou, 2001). In addition, these employees display a greater drive to develop new ideas and try new approaches – they have a desire to adapt and challenge the status quo. Employees who are less open to experience are often found to be more conservative and gravitate towards familiar ideas that do not present the threat of change and the need to adapt significantly. Novel and unique ideas would be less favoured by those who measure lower in openness (George & Zhou, 2001). In being open, one is more exposed to a variety and depth of experience, and thus a greater understanding and acceptance of unconventional ideas or new approaches. For these reasons, the individual is more likely to identify merit in challenging the status quo, find value in novelty and improve or change how work is performed. This appreciation, coupled with the willingness to approach tasks innovatively, is conducive to creative problem solving, creative ideation and other innovative behaviour. Therefore it is likely that employees who measure high on openness to experience would also measure high on creative work involvement, as this type of behaviour is characterised by demonstrating originality in work tasks, and finding new uses for existing methods or equipment, for example (Kark & Carmeli, 2009). Moreover, Schilpzand et al. (2011) explain that both conceptually and empirically, one can closely associate openness to experience with individual creativity

Research shows that, when examining personality traits, openness to experience and conscientiousness have been shown to be the variables that are most indicative of creative performance. Furthermore, it is important to consider that employees who display a higher level of openness to experience have also been shown to be more sensitive and attuned to their emotions. That is, they pursue a broader variety of experiences (external and internal) and demonstrate a tendency to experience these more fully and intensely. Heightened sensitivity suggests a heightened responsiveness to feedback – regardless of whether it is positive or negative. Thus openness to experience on its own may not be sufficient for creative work involvement if the individual is operating in an environment in which supervisors are unaware of their sensitivity to feedback valence – negative feedback is likely to be

destructive to creative performance. There also is the question of the nature of the task involved. Algorithmic tasks involve the use of one approach to achieve an outcome, whereas heuristic tasks suggest multiple possibilities in terms of method and low clarity or instruction regarding the means and result that should be achieved. Employees who are high on openness to experience and who receive positive feedback should be asked to perform heuristic tasks. This is because there is space to be creative in how the task should be done. This is when those who are high on openness to experience will display the highest degree of creative work involvement. Essentially, research shows that positive feedback yields highly creative work involvement when those who are high on openness to experience are asked to complete heuristic tasks (George & Zhou, 2001). Thus, while this study aimed to examine the degree to which those who are open to experience are also high on creative work involvement, feedback valence and the nature of the task may influence this relationship. For the purposes of this study, these latter two constructs will not be examined.

Employees who display high openness to experience are imaginative and independent thinkers with curious minds (George & Zhou, 2001). Creative work involvement also suggests that the employee is consistently engaged creatively at work – this emphasises the importance of intrinsic motivation and a personal desire to work creatively. Relying on external influences alone to engage employees creatively is insufficient. Curious and imaginative thinkers who are also more amenable to new and unconventional ideas can be seen to be far more likely to demonstrate a natural inclination to engage creatively at work. This is owing to the fact that divergent thinking and a tendency toward novel ideas are dominant factors within this individual's personality. There thus are abundant reasons to hypothesise that employees who display high levels of openness to experience are also likely to be highly engaged in creative work.

H<sub>3</sub>: Openness to experience has a significant positive effect on creative work involvement

#### **2.3.4. The moderating role of vitality flow**

Having explored the effect of the individual-level factor of openness to experience and how this has been hypothesised to have an impact on creative work

involvement, greater scope now is opened to explore other individual-level factors that have been shown to be worthy of exploration within the context of the research question. In addition to personality variables that could influence an employee's engagement with creative work, one can also consider more personal factors such as mood and emotions that are experienced at the workplace. Both of these variables cannot be separated from the individual; it would be inorganic to enforce a compartmentalisation of a human being's feelings and thoughts from their behaviour at work. On the contrary, it is reasonable to assume that the individual's energy levels, mood and emotions will have a significant effect on his/her behaviour. In scanning the literature, the variable within this area that was identified as pertinent for creative outflow was vitality.

Vitality refers to the degree to which an individual experiences mental and physical energy at work. If the individual's experience of work causes him/her to feel alive, full of energy and invigorated, this is an indication of high levels of vitality at work. Moreover, the individual will feel mentally strong and revitalised at work. Individuals who discover that their work causes them to feel worn out, drained and both mentally and physically depleted will find that their levels of vitality are low (Burr, Albertsen, Rugulies & Hannerz, 2010). Vitality refers to a sense of feeling full of life, activated, refreshed and motivated at work (Williams, 2012).

When an individual experiences high vitality at work, the individual as well as his/her colleagues will be able to observe the external indications that point to the presence of this state. Fluctuations in an individual's energy levels can be perceived externally as a positive state in which the individual demonstrates indicators of feeling invigorated and mentally strong. Vitality is essentially an indication of the experience and amount of energy that an individual feels is available. This refers to a calm energy as opposed to tense energy according to Ryan & Frederick (as cited in Nix et al., 1999). Tense energy is challenging to harness and is usually demonstrated through feelings of anger and anxiety. Vitality, however, is demonstrated through useful energy that can be directed and channelled in a meaningful way. The energy that is experienced when an individual demonstrates high vitality is energy that is within the control of the individual to utilise. In this sense, this positive energy is accessible and can be used with productive effect. Energy that is unrelated to vitality and does not invite the same level of control and productivity includes jitteriness.

Research has shown that individuals who experience high levels of vitality also experience good physical health and are less prone to illness (Khalkhali & Golestaneh, 2011). Conversely, employees who are hindered by common physical pain or defective health also experience low levels of vitality at work. The experience of vitality will fluctuate in accordance with the psychological state of the individual and the level of autonomy offered to the employee in the work environment (Khalkhali & Golestaneh, 2011). Employees who experience vitality at work exhibit resilience as well as a capacity to manage stress effectively. In addition, vitality is associated with productivity, which illuminates this constructs as a significant factor to explore for the growth of organisational effectiveness.

Mental stability and well-being as, well as high levels of activity, are associated with vitality. Ryan & Frederick (as cited in Nix et al., 1999) refers to vitality as a psychological state in which one experiences the feeling of being alive in spirit and enthusiastic. High vitality is experienced when an individual does not feel overly constrained by his or her external environment. Restrictions such as low autonomy and control, feeling unequipped or incapable of completing the required tasks, feeling hampered and weighed down are not demonstrative of vitality or the energy that is yielded through the experience of vitality (Nix et al., 1999). Vitality is an animatic energy and is loaded with vigour, liveliness and force. The importance of autonomy for the successful growth of creativity was mentioned briefly above. When the work being done contributes to self-actualisation and incites an interest and desire to complete the task, the individual is motivated through his or her autonomy. The energy experienced is invigorating; this demonstrates vitality.

Conversely, an individual who is forced to complete tasks where there is merely external motivation and intention to complete the task may not perceive opportunities for self-actualisation. In this case, vitality is not the nature of the energy experienced (Fredericks & Ryan, 1997 as cited in Nix et al., 1999). This is effectively communicated in the contrast between the energy a slave might experience whilst dragging stone blocks to create a tower, as opposed to the energy experienced by a sculptor who is personally engaged and expresses a desire to complete the work done. Mental and physical energy in the form of vitality are greatly accessible to the sculptor, while the slave may experience motivation and intention without the feelings of being 'full of life' and invigorated (Nix et al., 1999).



Emotions play a significant role in our ability and willingness to behave in certain ways. The psychological safety construct draws significantly on how a person feels in relation to other people, and how other people's responses, actions, support or lack thereof hinder or enhance creative work involvement. Research shows that positive affectivity enhances creative ability, as this results in the type of "cognitive variation that contributes to creativity" according to Clore, Schwarz & Conway (as cited in Carmeli et al., 2010, p. 790). There are fewer research findings suggesting that positive affect reduces creativity while negative affect enhances it (Carmeli et al., 2010).

Carmeli and Spreitzer (2009) describe how the feeling of vitality provides employees with the energy and motivation to engage in creativity – their innovative behaviour is fuelled in part by vitality. It is a positive emotional state experienced by the individual as a sense that he or she has the capacity to undergo a task, or the sense of willingness and eagerness to behave in a certain way. It is clear to see how this positive emotional state might give an employee the energy and motivation to exert the necessary effort needed to innovate at work.

As discussed, creative work involvement involves risk taking as well as the pursuit and application of original ideas (Carmeli & Spreitzer, 2009). It is likely that potential innovators experience resistance towards their ideas, as their behaviour seeks to change and challenge existing processes, products and services. Vitality, which is expressed in part through feelings of mental and physical strength and an enjoyment of the work, is an appropriate support structure for innovative behaviour. Previous scholars described their perspective on creativity in which the need for "an intentional, emotional involvement" in the work being done was identified according to Rothenberg (as cited in Carlsson, Wendt & Risberg, 2000, p. 873). In essence, innovative behaviour requires that we exceed the mere fulfilment of our rudimentary tasks and requirements.

It is important to experience vitality in order for this extra effort to be delivered. Interestingly, many organisations urge their employees to 'go the extra mile', but project strong resistance to the idea of experimentation with new ideas for change. Innovation is by no means a passive display of work – employers who recognise innovative behaviour at work should observe this as a genuine display of additional effort at work (Carmeli & Spreitzer, 2009). Employees who experience vitality and



willingness to engage innovatively at work will present the often unsettling prospect of experimentation, yet how are new ideas to be implemented or assessed without experimentation? Carmeli and Spreitzer (2009, p. 173) eloquently express that “it is the arousal inherent in positive affect that explains the link between positive affect and creativity”. Furthermore, Wang and Netemeyer (2004) posit that the employee’s intrinsic satisfaction is increased when the job role expresses an expectation or encouragement of creative performance.

Motivation to engage in creative work is also associated with how we feel about the work – our emotional disposition towards it. Research has shown that positive emotions enhance motivational processes in such a way that creative behaviours are found to escalate (Carmeli et al., 2010). Experiencing emotions such as joy and love expands the selection of cognitions available during that time, thereby increasing action and, subsequently, creative work involvement is bolstered. Positive emotions would also naturally flow from a climate of psychological safety, as the climate in this situation would be one that is tolerant of risk and ambiguity, supportive of unique and diverse ideas and open to experimentation. This ‘psychological space’ will also give rise to a feeling of comfort, acceptance and safety. This certainly echoes much of the positive emotions mentioned above. Indirectly, psychological safety also generates positive emotions in individuals and therefore stimulates action according to Frederickson (as cited in Carmeli et al., 2010). This begs the question how positive emotions might manifest in the relationship between psychological safety and creative work involvement. An appropriate construct to consider, which draws on emotions such as love, joy and positive feelings – as mentioned previously, is that of vitality.

Frederickson (as cited in Carmeli et al., 2010) states that, when we experience positive emotions, we are encouraged and empowered to experiment with new ideas and directions and feel more confident to abandon – even if only temporarily – our usual ways. These “unscripted directions of cognition and action, which are likely to result in novel and creative ideas” are fuelled by positive emotions according to Frederickson (as cited in Carmeli et al., 2010, p. 791). Research also shows a correlation between positive mood and an enhancement in creativity – relative cognitive processes such as flexible problem solving or idea generation (Carmeli et al., 2010). In addition, when individuals are in neutral or sad moods, they do not

demonstrate as much divergence in their thinking, and they demonstrate less fluency and generate fewer responses than individuals who are happy (Carmeli et al., 2010). There is abundant research drawing the correlation between positive affect and creativity (Carmeli et al., 2010).

When we thrive at work, we experience vitality, which grows through a relational connection with other employees or team members. Vitality is often termed 'zest' at work; it is a construct that is associated with having deep and generative connections with colleagues. Thus vitality at work is closely connected with how we feel in our work team as a result of our relationships with team members (Carmeli & Spreitzer, 2009). We have explored psychological safety as a state in which one feels a sense of trust amongst team members in which diversity and the projection of unconventional ideas can take place without fear that one's credibility or professional credibility is at risk. This relational trust resonates with the connection and relationships between work group members. This is precisely how vitality grows. There thus is significant reason to consider how vitality (zest) acts upon psychological safety in the work team.

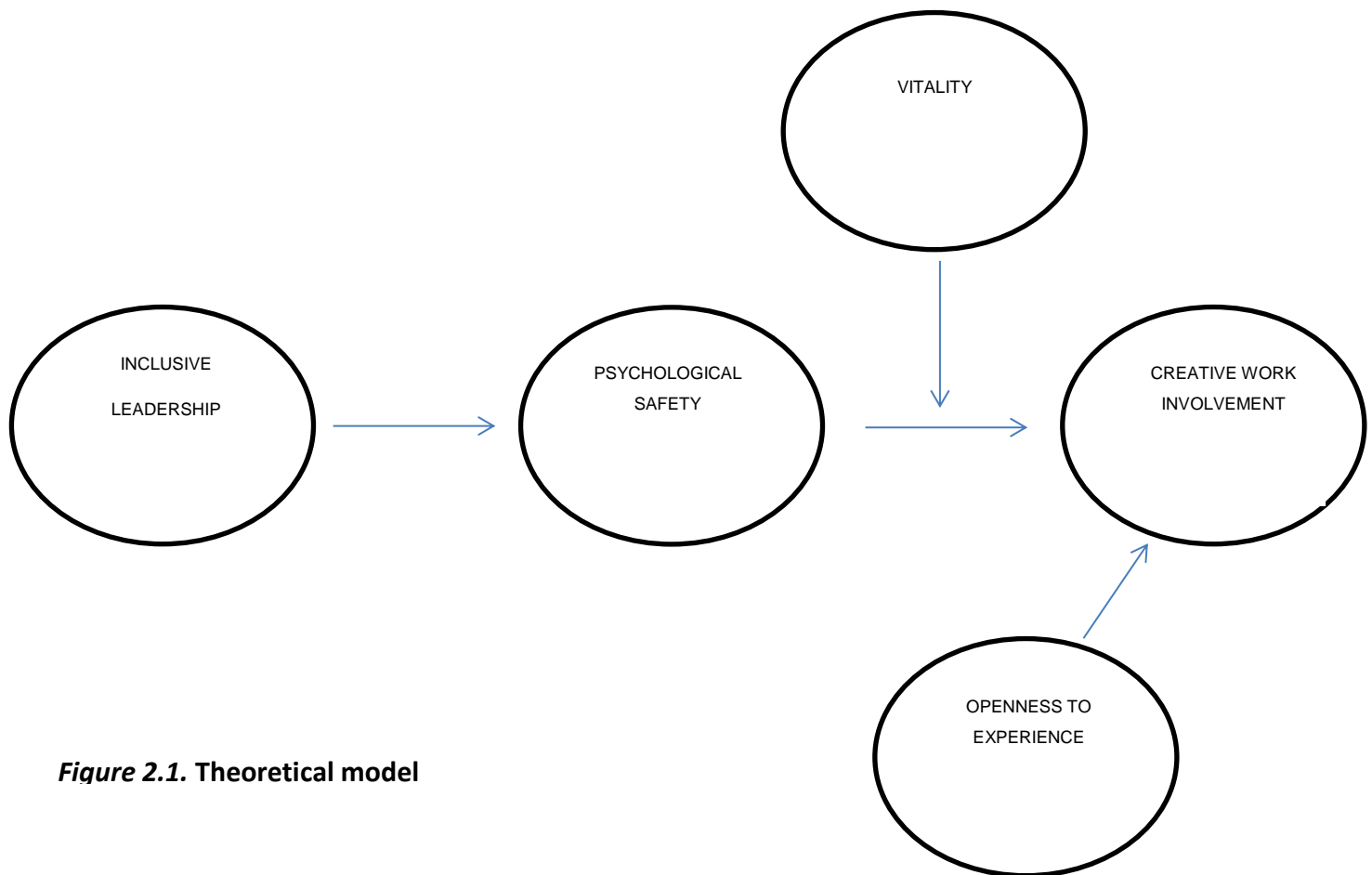
Since vitality is also a construct that is associated with high levels of positive arousal, and the latter has been shown to be an important cognitive resource for creativity, this is a significant reason to suggest that vitality may be the construct that assists in the state of psychological safety, which results in creative work involvement.

H<sub>4</sub>: Vitality has a significant moderating effect on the relationship between psychological safety and creative work involvement.

Finally, the theoretical model displaying the hypothesised relationships, as described in the above literature review, is presented below.

## 2.4. THEORETICAL MODEL

Figure 2.1. depicts the theoretical structural model of the variables measured in this study.



**Figure 2.1. Theoretical model**

## 2.5. SUMMARY

The literature review has illuminated a number of variables that are able – through previous research – to explain variance in creative work involvement. Certain studies and findings have also provided substantial reason to hypothesise how these variables may indeed be correlated with high creative work involvement. Interestingly, these variables are positioned at different levels or different structures, yet are highly interrelated. The effect of the individual on his or her own capacity to engage creatively at work, the effect of the individual in relation to the team, as well as the effect of the leader on the group and, subsequently, on the individual, are all explored in relation to the engagement of creativity at work

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1. INTRODUCTION**

The overarching purpose of this research study was to attempt to answer the research-initiating question; the use of the scientific method of enquiry allows for objectivity and rational thought to motivate the findings. In order to carry out this objective, a literature review was conducted and, as a result, a structural model was generated. The structural model presents four variables that account for variance in creative work involvement, as indicated in the literature. The structural model contributes towards human resource management by assisting in explaining how creative work involvement can be stimulated and enhanced within the workplace; however, this contribution is limited to the extent of the validity of the relationships depicted in the model. According to Babbie and Mouton (2001), the structural model is identified as being valid when there is a close fit between the model and the corresponding empirical evidence. The methodology selected to carry out the research and attempt to answer the research-initiating question should support the epistemic ideal of science. The selection of an appropriate research methodology will aid the development of valid and credible results. It thus is important to select a methodology that will increase the possibility of generating results that are valid and thus useful in answering the research-initiating question. The objectives of the study are outlined below.

The main objective of the study was to develop and test a creative work involvement model based on a literature review and to recommend practical implications of the research for managerial input within organisations. In pursuing this, pertinent variables were tested as causes of creative work involvement.

This chapter presents the substantive hypotheses, research design, statistical hypotheses, measuring instruments, sampling design and the statistical analysis techniques that were utilised to assess the structural model.

#### **3.2. SUBSTANTIVE RESEARCH HYPOTHESES**

In attempting to answer the research-initiating question, the purpose of this study was to test the hypothesised relationships that were drawn from the literature and

are presented below. The independent variables in the structural model are psychological safety, inclusive leadership, openness to experience and vitality, which was identified as a moderating variable. The dependent variable is creative work involvement.

This substantive hypothesis is expressed in four path-specific research hypotheses below.

Hypothesis 1: Psychological safety has a significant positive effect on creative work involvement.

Hypothesis 2: Inclusive leadership has a significant positive effect on psychological safety.

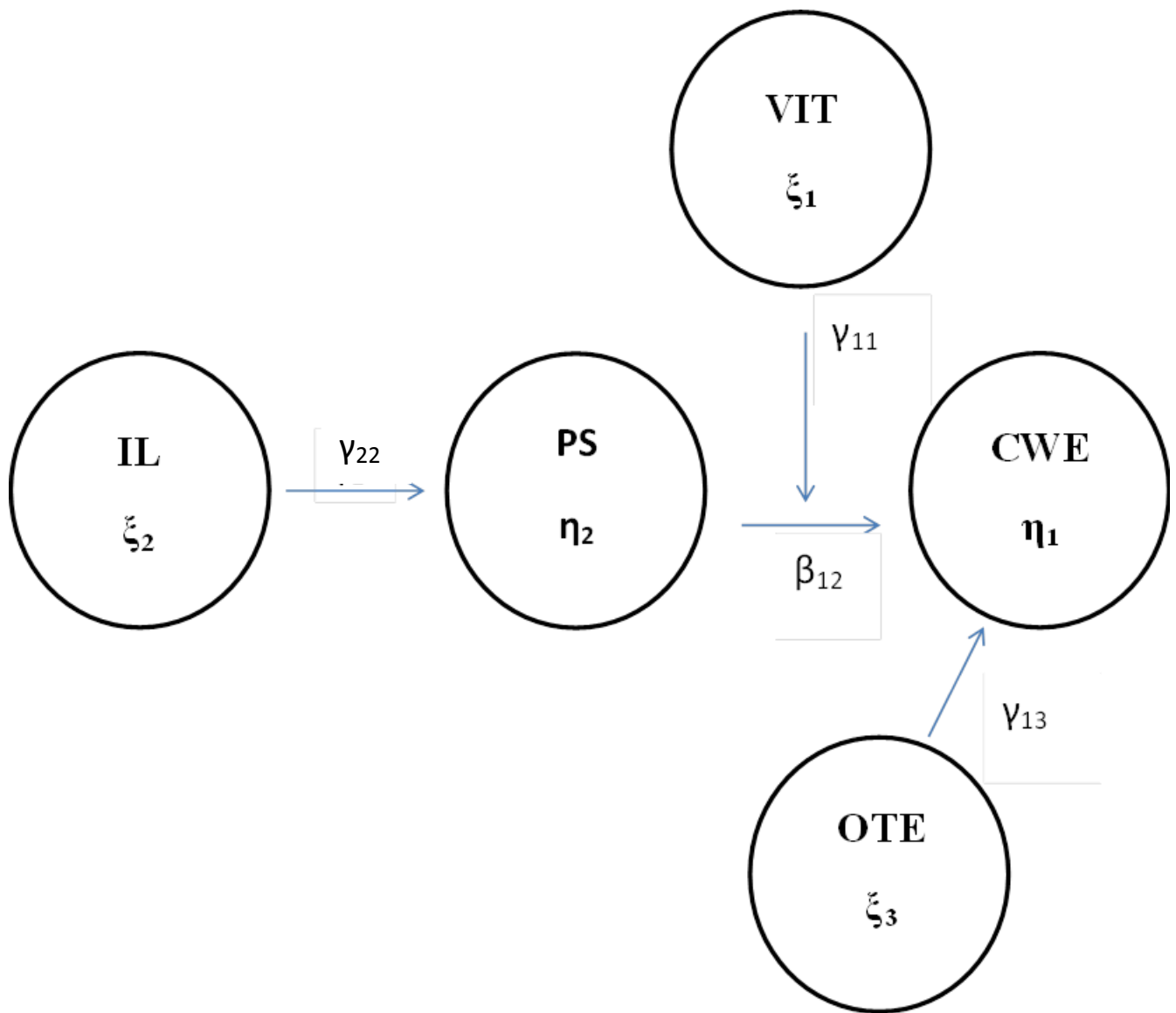
Hypothesis 3: Openness to experience has a significant positive effect on creative work involvement.

Hypothesis 4: Vitality has a significant moderating effect on the relationship between psychological safety and creative work involvement.

### **3.3. STRUCTURAL MODEL**

The diagram below is a graphical representation of the hypotheses that were formulated and presented in Chapter 2 of this research report. Inclusive leadership has a significant positive effect on psychological safety. Psychological safety, in turn, has a significant positive effect on creative work involvement. Openness to experience has a significant positive effect on creative work involvement, and vitality has a moderating effect on the relationship between psychological safety and creative work involvement.

Figure 3.1. below demonstrates the hypothesised structural model of the variables measured in this study.



**Figure 3.1. Hypothesised structural model**

### 3.3.1. Path-specific research hypotheses

Hypothesis 1: Inclusive leadership ( $\xi_2$ ) has a significant positive impact on psychological safety ( $\eta_2$ )

Hypothesis 2: Psychological safety ( $\eta_2$ ) has a significant positive impact on creative work involvement ( $\eta_1$ )

Hypothesis 3: Openness to experience ( $\xi_3$ ) has a significant positive impact on creative work involvement ( $\eta_1$ )

Hypothesis 4: Vitality ( $\xi_1$ ) has a significant moderating effect of the relationship between psychological safety ( $\eta_2$ ) and creative work involvement ( $\eta_1$ ), i.e. on  $\beta_{12}$

### 3.3.2. Statistical research hypotheses

The structural model above illustrates the hypothesised relationships between the endogenous and exogenous variables, which were drawn from the literature review presented in Chapter 2. The hypothesised relationships between the variables are reflected below in the form of statistical hypotheses. Moreover, the statistical analysis technique of structural equation modelling (SEM) is presented. LISREL was selected as the statistical package and the hypotheses thus are presented in the format of SEM. The purpose of the research was to assess the hypothesised relationships between the various constructs and to assess for significance. The structural model depicting the hypothesised relationships is assessed against hypotheses depicting exact fit and close fit, whereby exact fit indicates that the research results reflect the hypothesised relationships with absolute precision and accuracy. The substantive hypothesis suggests this exact fit; however, this is highly unachievable in reality, as there are many contributing factors that will prevent the actual assessment from reflecting the perfect precision hypothesised in the theoretical model. For this reason it was appropriate to consider whether or not close fit can be achieved, which implies that, in reality, there are multiple influencing factors that can disrupt the potential perfect fit of the model.

Exact fit

$$H_0: \text{RMSEA} = 0$$

$$H_a: \text{RMSEA} > 0$$

Close fit

$$H_0: \text{RMSEA} \leq .05$$

$$H_a: \text{RMSEA} > .05$$

Hypothesis 1: Psychological safety has a significant positive effect on creative work involvement.

$$H_{01}: \beta_{12} = 0$$

$$H_{a1}: \beta_{12} > 0$$

Hypothesis 2: Inclusive leadership has a significant positive effect on psychological safety.

$$H_{02}: \gamma_2 = 0$$

$$H_{a2}: \gamma_2 > 0$$

Hypothesis 3: Openness to experience has a significant positive effect on creative work involvement.

$$H_{03}: \gamma_{13} = 0$$

$$H_{a3}: \gamma_{13} > 0$$

Hypothesis 4: Vitality has a significant moderating effect on the relationship between psychological safety and creative work involvement.

$$H_{04}: \gamma_{11} = 0$$

$$H_{a4}: \gamma_{11} > 0$$

### **3.4. ETHICAL CONSIDERATIONS**

Some ethical considerations with regard to this study include the fact that leaders (including immediate supervisors) were assessed by subordinates, while some of these leaders may not have necessarily been aware of this. Participants were asked to assess their supervisor on the degree to which inclusive leadership qualities were evident. It is possible that senior management may not have wanted the assessment to take place. They may have felt that this would stimulate thought around management flaws and subsequently be detrimental for the organisation at large, or to the leader's reputation. In order to overcome this concern, obtaining permission from managers in a senior position was necessary before administering this test to the leaders' subordinates.

Another ethical consideration was concern about whether or not requesting employees to assess their colleagues in the area of psychological safety might perhaps illuminate a lack of psychological safety in the group. Further complications



could be dissatisfaction with the group dynamics and consequent disruptions. With the opportunity to gain insight in how to monitor and foster psychological safety through leadership, most leaders were willing to take part in the study.

### **3.5. RESEARCH DESIGN**

The function of the research design is to present a method by which an empirical investigation of the proposed hypotheses can take place. Factors that are considered when determining the research design include the objectives of the study, the nature of the research-initiating question and the quantitative statistics or output that would be necessary for the correct assessment of the hypothesis. The research design should allow for unambiguous findings to be generated in order to answer the research-initiating question by assessing the hypothesised relationships with as much precision and effect as possible (Babbie & Mouton, 2001). The purpose of the research design is also to control the variance and to generate empirical results that demonstrate support or lack thereof for the research hypotheses. An ex post facto correlation design was used to address the research problem.

The ex post facto design is a correlational design method of enquiry. This method is selected when the researcher does not have direct control over the variables. More specifically, the relationship between the variables takes place without adjustments made by the researcher to force a relationship. This is elaborated upon by Kerlinger and Lee (2000), who state that, if the variables cannot be manipulated or if the expression and exhibition of the variables has already taken place, this is an indication that the researcher cannot exercise 'control' over them. The ex post facto correlational design allows the researcher to assess the effect of change in one variable on another. The activity being observed thus is a correlational effect. It should be noted at this stage that the ex post facto design does not measure causality, but merely correlation. The design only allows for inferences to be made about the correlation between the variables (Kerlinger & Lee, 2000).

It should also be noted that, when using the ex post facto correlational design and when the structural model is assessed for goodness of fit, one could still glean useful and acceptable information and explanations regarding the covariance matrix, even if the fitted model does not demonstrate a perfect fit. A model that does not express

a perfect fit is indicative of an inaccurate demonstration of the structural relationships that have been hypothesised in the model; the process and perhaps inaccurate demonstration thereof within the model are addressed through a finding that does not express goodness of fit.

The limitations of the ex post facto research design according, to Kerlinger (1973), include the restriction placed on the research in that the independent variable cannot be manipulated. In addition, randomisation cannot take place and there is a possibility that, if the data is not interpreted with absolute accuracy, the results and subsequent discussions could hamper the effective execution of the research and response to the research-initiating question. This is identified as a disadvantage and a weak element relating to the research design. Moreover, when applying the ex post facto research design, the hypothesised relationships that are shown to be significant do not necessarily indicate causality, but rather allow for the inference that there is a relationship between the two variables.

Nonetheless, the design is still frequently used in research – this is owing to the fact that the hypothesised relationships that are being assessed do not occur in controlled environments. Some of the benefits include the fact that one can harness the design to assess the strength of the relationships between variables. In this way, utilising an ex post facto design is a superior method in comparison to an experimental design for the purpose of this study. It is identified as the optimum and most suitable method of assessment, regardless of these weaknesses.

### **3.6. MEASURING INSTRUMENTS**

In order to effectively assess each of the variables presented in the study, an appropriate measurement tool was selected that can effectively assess the hypotheses that were formulated. The endogenous and exogenous variables identified had to be assessed in order to obtain information that would indicate either support for or rejection of the hypotheses. The selected instruments had to be identified as psychologically sound, or trustworthy, tools of evaluation. The function of the measurement instruments is to operationalise the variables such that they become accessible for effective measurement. They therefore should demonstrate reliability and validity; the presence thereof justifies the choice of certain measuring instruments. The reliability of the measurement items are assessed by means of the

Cronbach alpha value, moreover the measurement items were drawn from previous studies whereby the researchers who developed the measurement items had previously validated the measurement tool. Therefore further explanation on the validity of the measurement tool is not provided.

Once the survey was selected, an electronic version was generated to allow for an efficient self-administration system to be used and also to ensure anonymity. The survey was divided into six sections. The first section involved the gathering of demographic information, as seen in Table 1 below. The final five sections presented Likert-type questions to assess the following variables: openness to experience, psychological safety, inclusive leadership, vitality and creative work involvement.

Firstly, employees were asked to stipulate the industry to which their organisation belonged, and they were asked to disclose the name of the organisation on the survey only. Furthermore the following categories were presented requesting the relevant information: religion, race, age, gross income, gender, marital status, office tenure, education level, home language, whether or not the home language was spoken at work.

It should be noted that the section of the survey that requested biographical information from the participants created the opportunity for the individual to omit any biographical information that he or she preferred not to indicate. The biographical section of the survey was the only segment that allowed the participant to omit information. The remaining sections of the survey, which presented items assessing the five core variables pertaining to this study, were designed in such a way that the participant was requested to answer each question before proceeding to the next. In this way, the researcher assisted the participants to complete the survey without omitting any item responses.

### **3.6.1. Creative work involvement**

Creative work engagement can be defined as the degree to which an individual engages creatively at work, demonstrating an innovative pattern of thinking and behaving on an individual level (Kark & Carmeli, 2009). The individual will demonstrate behaviour such as the intentional pursuit of new methods of approaching a problem, finding new uses for existing methods of equipment or processes, expressing originality in his or her work tasks and use new solutions to

solve problems that other colleagues may have not been able to resolve (Kark & Carmeli, 2009). The scale for creative work involvement was developed by Tierney et al. (as cited in Carmeli et al. 2010). The measurement item consists of nine items and demonstrates a high level of reliability, with a Cronbach's alpha value of .95. The Cronbach alpha value also indicates the high internal consistency according to Carmeli & Schaubroeck (as cited in Carmeli et al., 2010). Sample items draw on thinking and behaviours related to creativity; participants are requested to indicate the frequency with which they demonstrate the behaviours indicated in the items. For example, statements were included such as 'I served as a good role model for creativity', 'I demonstrate originality in my work' and 'I tried out new ideas and approaches to problems'. Participants were able to respond to these items using a Likert-type scale with scores from 1 (strongly disagree) to 6 (strongly agree) (Carmeli et al., 2010).

### **3.6.2. Psychological safety**

Psychological safety is defined as "an individual's perceptions of the consequences of taking interpersonal risks in their work environment" according to Edmondson (as cited in Kark & Carmeli, 2009, p. 787). Individuals who experience high levels of psychological safety, feel safe and secure to be vulnerable, express their ideas and be themselves within their work environment. The individual will also display behaviour which implies a security in feeling that team members will not actively undermine his or her behaviour. The individual would consider himself to be accepted within the group, would actively take risks and would feel as though skills and talents are being harnessed (Kark & Carmeli, 2009). This survey assessing psychological safety consists of six items from the psychological safety scale, exhibiting a Cronbach's alpha value of 0.76 from Edmondson (as cited in Carmeli et al., 2010). The participants were asked to respond to the survey on a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Items included "It is safe to take a risk in this organisation" and "Working with members of this organisation, my unique skills and talents are valued and utilised". In addition, items 2 and 4 of this scale are reverse scored.

### **3.6.3. Inclusive leadership**

Inclusive leadership refers to a leadership style in which the leader remains open, accessible and both physically and emotionally available (Nembhard & Edmondson,

2006). Leaders who display high levels of inclusiveness, ensure that their subordinates are aware of their availability, they make themselves accessible in practical ways to discuss new ideas. These leaders display an ongoing presence within the environment and actively encourage team members to discuss challenging issues with him or her (Nembhard & Edmondson, 2006). The measuring tool that was used to measure inclusive leadership was constructed by Carmeli et al. (2010). The tool consists of three subscales: openness, availability and accessibility. These three dimensions assess inclusive leadership. It is a nine-item measurement. This measure presents a Cronbach's alpha value of .94. The participants are asked to respond to questions on a five-point scale ranging from 1 (not at all) to 5 (to a large extent).

#### **3.6.4. Openness to experience**

George and Zhou (2001, p. 514) describe openness to experience as “the extent to which individuals are imaginative, sensitive to aesthetics, curious, independent thinkers, and amenable to new ideas, experiences and unconventional perspectives. People who display high openness to experience are likely to explicitly pursue new ideas and seek after new experiences. These employees are likely to display an explicit appreciation for independent thinking as well as curiosity within the work environment. The individual is also likely to display unconventional approaches to tasks such as problem solving or idea generation (George & Zhou, 2001). These employees are likely to intentionally pursue new ideas. The measurement tool that was used to assess openness to experience consisted of 10 items taken from the HEXACO-60 survey (Lee & Ashton, 2004). All 10 items were specifically assigned to the construct, namely openness to experience. In addition, this measurement tool includes four subscales. These are aesthetic appreciation (1, 25) inquisitiveness (7, 31), creativity (13, 37 and 49), and unconventionality (19, 43 and 55). The participants are asked to rate the statements provided from 5 (strongly agree) to 1 (strongly disagree). Based on the complete HEXACO-60 survey, the inter-item correlations ranged from .21 to .28 in the community sample. Example items from this survey include: “I find it boring to discuss philosophy” and “People have often told me that I have a good imagination” (Lee & Ashton, 2004). Participants were asked to respond to ten items on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Questions 1, 19, 31, 49 and 55 are reverse-scored.

### **3.6.5. Vitality**

Vitality refers to a sense of feeling full of life, activated, refreshed and motivated at work. Individuals who experience vitality at work would express feelings of mental and physical strength, and would identify their workplace as a space in which they feel most invigorated or vital (alive) according to Bostic, Rubio & Hood (as cited in Williams, 2012). The individual would also express feeling positive emotions at work and experiencing positive energy when engaging with work tasks (Williams, 2012). The scale measuring vitality was developed by Carmeli (as cited in Kark & Carmeli, 2009). This scale uses a scale consisting of five items. The reliability measure was a Cronbach's alpha value of .93 (Carmeli et al., 2010). Participants were requested to indicate the extent to which they agreed with a statement on a Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree).

## **3.7. RESEARCH SAMPLE AND PARTICIPANTS**

The data collected for this study was drawn from employees working in a variety of industries in South Africa. Theron (2012) posits that the generalisability of the findings of the research is largely dependent on the degree to which the sample group is representative of the current population. The statistical power of the sample is also considered to be an integral indicator of generalisability.

In addition, it has been established that larger sample sizes increase the likelihood of stable correlations between the various constructs of research. Larger samples thus also allow for generalisations to be more reliable, appropriate and valid. In this way, findings drawn from research with large populations ultimately provide insights that can be applied more accurately to alternative populations. In this way, considerable value can be added to knowledge about the content in the relative population group (Worthington & Whittaker, 2006). It therefore is necessary to consider carefully the contribution of sample size to the findings and the ultimate impact of the research. These factors include the ratio of the number of estimated parameters to the sample size. In addition, the statistical power mentioned above relates to the testing of the hypothesis and the alternative hypothesis to measure the goodness of fit of the model. Lastly, access to a particular sample group (convenience as well as suitability of group are considered here), as well as any costs related to accessing a sample group, are considered. Other factors that may be limited by practicality and the

logistics of carrying out the data collection process also were considered (Coyne, 1997; Devers & Frankel, 2000).

The selection of an appropriate number of participants and participants with the correct nature is integral to the effective execution of the research. According to Kelloway (1998), a minimum sample size that would be suitable for the application of structural equation modelling (SEM) is 200. Also, partial least squares (PLS) analysis is appropriate to be utilised when the sample size remains relatively small.

Sampling pertains to the selection of a subset of individuals from the total population. For the purpose of this study, non-probability convenience sampling was used; the accessibility of participants to the researcher thus was an influencing factor.

Participation in the study was dependent on whether or not the participant was a permanent employee at an organisation. It should be noted, however, that industry, job level and job type were not limiting factors. The sampling system thus was affected by the practical limitations of proximity, time constraints and the level of willingness for engagement that managers felt towards the research. Details regarding the procedure used to gather the data are discussed below.

An electronic survey was created, presenting the items assessing the five constructs explored in this study, as well as an initial section that requested demographic information. The researcher then contacted the human resource managers of a number of different organisations both telephonically as well as by email. Participation was permitted for any organisation based in the Western Cape, Gauteng and the Eastern Cape. Participants could also have any job (technical or administrative) within the organisation. The human resource manager received a document explaining the purpose of the research, a consent form and an explanation of the implications and process of participation. In some cases the full research proposal was requested and provided by the researcher. A total of 39 organisations took part in the study.

If the organisation agreed to participate, a manager was requested to sign the consent form and to indicate whether or not participation was on condition that the organisation received a personal company report of their results upon completion of the research study. Thereafter, the electronic survey was released to the various employee groups within the organisation. In some cases the researcher was



supplied with the email addresses of all employees within the organisation, and in other cases the management team presented a selection of employee email addresses that could be added to the send-out list.

Participants were asked to read a consent form and proceed with the survey if they were satisfied to do so. They were also informed that the research results would be prepared and forwarded to them towards the end of the research process. A reminder email was forwarded to the recipients who had yet to complete the survey; this was done at three-week intervals. The surveys were completed online and anonymously, and no external incentives were provided for participation. In total, 519 responses were collected from 39 organisations.

The survey contained 39 items in total to measure the five constructs of the study; a pilot study revealed that it would take an individual between five and eight minutes to complete the survey. This quantitative method of assessment involved the empirical collection of data at one particular point in time. A second collection of data did not take place. Data collection took place over approximately four months. Once data had been collected, a multiple regression analysis was performed. A variety of organisations of different sizes and from different industries took part in the study. These were arranged to create a greater degree of variance within the sample. Tables 3.1 and Figure 3.2 below present information regarding the demographics and industry of the participants.

### **3.8. MISSING VALUES**

When executing research and distributing surveys as a method of collecting data, it often happens that there are a number of participants who may decide not to respond to certain items in the survey. However, the survey was designed in such a way that the participants could purposefully omit the demographic information requested at the start of the survey, and he or she would still be able to continue with the rest of the survey questions pertaining to the content. Due to the fact that participation in the study was anonymous, participants were given the option of stipulating as much of their demographic information as they desired, prior to responding to the variable items that were presented later in the electronic survey. Despite the fact that participants were clearly informed about how anonymity would be preserved, 46 participants decided not to supply any of their demographic



information, although they did complete all the items measuring the five relevant constructs for this study; they thus completed the rest of the survey. Table 3.1 shows the demographic information of 473 of the 519 participants.

The remaining sections of the survey, which assessed openness to experience, creative work involvement, vitality, psychological safety and inclusive leadership, were designed in such a way that each item required a response in order to progress to the next question. Without responding to a prior question, one could not advance in the survey. This ensured that each survey that was submitted presented a set of complete construct responses, even though some of the demographic information may have been omitted.

Addressing missing values in a dataset could be done in several ways. These consist of list-wise deletion, pair-wise deletion, multiple imputations and full information maximum likelihood (Burger, 2011). Fortunately, the design of the survey ensured that the data pertaining to the variables assessed in this study was complete. The use of techniques to address missing values therefore was unnecessary.

**Table 3.1**

***Demographic Information***

Demographic  
information

<b>GENDER</b>	<b>Frequency</b>	<b>Percentage</b>
Male	208	44%
Female	265	56%
<b>MARITAL STATUS</b>	<b>Frequency</b>	<b>Percentage</b>
Married	236	50%
Unmarried	237	50%
<b>EDUCATION LEVEL</b>	<b>Frequency</b>	<b>Percentage</b>
High school	20	4%

(Continued)

Matriculation	108	23%
Undergrad. degree	213	45%
Honours degree	85	18%
Master's degree	33	7%
PhD/ further studies	14	3%

<b>RELIGION</b>	<b>Frequency</b>	<b>Percentage</b>
Christian	360	76%
Buddhism	4	1%
Islam	14	3%
Judaism	9	2%
African traditional	5	1%
Chinese traditional	0	0
Hinduism	9	2%
Other	72	15%

<b>RACE</b>	<b>Frequency</b>	<b>Percentage</b>
White	312	66%
Black	69	15%
Indian	24	5%
Coloured	60	12%
(mixed race)		
Asian	3	1%
Other	5	1%

<b>AGE</b>	<b>Frequency</b>	<b>Percentage</b>
Under 21	2	0%
21-30	181	38%
31-40	145	31%
41-50	81	17%
51-60	50	11%
61-70	13	3%
Over 70	1	0%

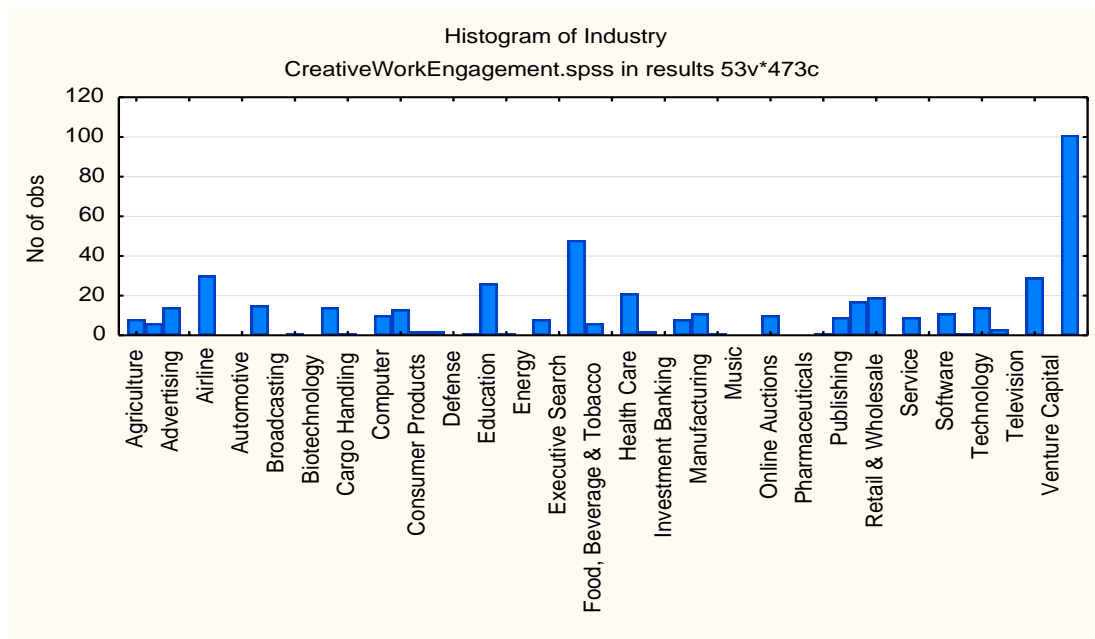
(Continued)

<b>GROSS INCOME</b>	<b>Frequency</b>	<b>Percentage</b>
<10 000	73	15%
R10 000-R15 000	105	22%
R15 000-R20 000	58	12%
R20 000-R25 000	63	13%
R25 000-R30 000	42	9%
R30 000-R35 000	26	6%
R35 000-R40 000	24	5%
R40 000-R45 000	26	5%
R45 000-R50 000	?	
R50 000-R55 000	17	4%
R55 000-R60 000	7	2%
>R60 000	32	7%

<b>OFFICE TENURE</b>	<b>Frequency</b>	<b>Percentage</b>
Isolated workspace	76	16%
Open plan setup	377	80%
Other	20	4%

<b>HOME LANGUAGE</b>	<b>Frequency</b>	<b>Percentage</b>
Afrikaans	145	31%
English	259	55%
isiNdebele	2	0%
isiXhosa	11	2%
isiZulu	13	3%
Sesotho	13	3%
Setswana	13	3%
siSwati		
Tshivenda	2	0%
Xitsonga		
Indigenous creoles		
Other	15	3%

<b>HOME LANGUAGE SPOKEN AT WORK</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	342	72%
No	131	28%



**Figure 3.2. Histogram of Industry**

### 3.9. BIOGRAPHICAL DATA ANALYSIS

The biographic data presented above indicates the following:

The data reflects that 44% of respondents were male, while 56% were female. There was an equal percentage division within the category of 'Marital Status' where 50% of participants were married and 50% were unmarried. The education level responses indicated the following: 45% of participants had obtained an undergraduate degree, 23% of participants had obtained a matriculation only, 18% of participants had obtained an honours degree and while only 7% of participants had obtained a Master's degree. Only 4% of respondents held only a high school certificate, while 3% had obtained a PhD.

In addition it can be noted that 76% of respondents indicated that they were Christian, while remaining percentages were dispersed amongst other faith systems consisting of Buddhism, Islam, Judaism, African Traditional, Chinese Traditional, Hinduism and other. The race demographic segment reflected that 66% of respondents were white, 15% were black, 5% were Indian, 12% were coloured, 1% were Asian and another 1% indicated 'other'. The age of the respondents are indicated as follows: 38% of the respondents were between the ages of 21 and 30, 31% of the respondents were between the ages of 31-40, 17% of the respondents

were between the ages of 41 and 50, and 11% of the respondents were between the ages of 51 and 60.

In examining the data reflecting income statistics, it can be reported that 22% of respondents were earning between R10 000 and R15 000 per month, 15% of respondents were earning less than R10 000 per month, 13% of participants indicated a monthly income which fell between R20 000 and R25 000 while 12% of respondents indicated a monthly income between R15 000 and R20 000. Moreover, 25% of participants indicated a monthly income between R25 000 and R45 000, while the remaining 6% indicated a monthly income between R45 000 and R60 000. Finally, 7% of participants indicated a monthly income that exceed R60 000.

In exploring the data reflected regarding office tenure, it can be reported that 16% of respondents operated in an isolated workspace, 80% of respondents indicated that their workspace was of an open plan structure and 4% reported the be operating in alternative office structures. In addition the home language demographic is reported here. Data reflected that 55% of respondents indicated English to be their home language, 31% indicated that Afrikaans was their home language, whilst the remaining 14% of individuals indicated their home language to be one of the following: isiNdebele, isiXhosa, isiZulu, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga or 'other'. Specific ratio distributions can be in found on Table 3.1. Lastly, 72% of respondents indicated that their home language was also the primary language used at work; 28% indicated that this was not the case.

In examining Figure 3.2 which is the histogram presenting the various industries from which the participants were drawn, it can be noted that 100 participants operated within the Venture capital industry. In addition, the television industry, airline industry, and food, beverage and tobacco also reflected high levels of participation.

Comment that can be made on the biographic statistics, pertain to the data that reflects extremely high or low levels of observations; these categories would be important to consider when attempting generalising the results of this report. Firstly, it can be noted that 76% of respondents indicated that they were Christian; the race demographic segment reflected that 66% of respondents were white. The results of this study are thus largely demonstrative of responses from white employees who categorize themselves as Christians. In chapter four, the results obtained from the

assessment of the hypotheses are presented; the generalisation of these results should be guided by the above conclusion. Moreover, 80% of respondents indicated that their workspace was of an open plan structure. The environment in which an individual operates can have a significant impact on factors such as noise and distraction levels, privacy or opportunity for collaboration for example. Whilst the analysis of this biographic data against the findings of this study is not the core focus of the research, it is valuable to note that at large, respondents from this study were drawn from an open plan work space. The results of this study can thus be more accurately generalised to individuals working within a similar structure.

### **3.10. STATISTICAL ANALYSIS**

The statistical analyses were conducted using SPSS, Statistica 9, LISREL 8.8 and SmartPLS. The analysis techniques used were item analysis, confirmatory path analysis (CFA), SEM and PLS path modelling.

#### **3.10.1. Item analysis**

The items presented in the survey served the purpose of drawing a response from the participants to assess a certain type of behaviour or construct dimension that has been drawn from a specific definition. The responses allow the researcher to gain insight into the manifest behaviour of the participant, as each item operates as a stimulus to which the participant is to respond and reveal behaviour pertaining to the relative variable. Some items may fail to interpret the variable accurately, therefore item analysis takes place as a precautionary measure to determine if there are any poor items that are flawed and should be omitted from the scale. Poor items that would be removed are those that are unsuccessful in creating a defined distinction between varying states of a single variable, such that most of the participants reflect the same position on that variable. In this way the item would have failed to illuminate an accurate distinction of the participant's true response or behaviour. These items do not contribute meaningfully towards the findings, but instead can hinder the effective response to the research-initiating question. The researcher may decide to alter an item or even to omit it completely from the list in order to ensure that inaccurate measurement items do not hinder the final results that accumulate. In the current study, no items were deleted.

This Cronbach's alpha therefore is determined in order to assess how certain items impact the overall reliability of the scale (Where .70 is used as a critical value to determine reliability and internal consistency according to Nunnally (1978).

### **3.10.2. Confirmatory factor analysis**

Confirmatory factor analysis (CFA) was performed using LISREL 8.80 and presented the opportunity for the assessment of hypotheses and factor structure demonstrated in the structural model. This analysis allows one to determine whether or not the indicator variables have effectively operationalised the variables that the survey aims to measure (Diamantopoulos & Siguaw, 2000). The measurement model presents the indicator variables through which latent variables are expressed. In this process, the measurement model is assessed for successful operationalisation; it is measured for goodness of fit. The fit of the measurement model is assessed through the hypotheses below:

$$H_{01}: RMSEA = 0$$

$$H_{a1}: RMSEA > 0$$

The measurement model effectively explains the manner in which the latent variables are expressed in the indicator variables. If, however, the measurement model presents only an approximate demonstration of how the latent variables are expressed by the indicator variables, the hypotheses below would be utilised assess if there is a close fit.

$$H_{02}: RMSEA \leq .05$$

$$H_{a2}: RMSEA > .05$$

### **3.10.3. Univariate testing for moderation**

A stepwise regression analysis was completed to test for the moderating effect, between combinations of three variables (independent moderator and dependent). An F-to-remove test was conducted to check if the omission of the interaction term had a significant effect on the regression.

### **3.10.4. Structural equation modelling**

The relationships between latent variables were defined through the use of SEM. In addition, the explained variance was evaluated and the LISREL model was fitted and assessed.

In using SEM, there are various factors that need to be established. Firstly the assumption of multivariate normality (normal distribution) was confirmed. LISREL assesses the hypothesis related to this assumption that the variables in the model were used for the operationalisation of the latent variables. If the data does not reflect multivariate normality, normalisation of the data should take place through the use of likelihood estimation, whereby an increase in the chi square statistic indicates an unsuccessful estimation, in which case the analysis would need to be carried out using the non-normalised data set. In addition, when using SEM, the data is treated as continuous. In other words, the assessment of data responses measured internally operates on the basis or assumption that the variable type is unchanging.

With regard to the fit of the structural model, larger modification indices allow the model to be of a better fit. However, the modification of parameters should only be done if it does not create the suggestion that numerous possibilities could exist to render the model a better fit. There thus needs to be sound theoretical reasoning for parameter modifications to take place.

#### **3.10.5. Partial least squares regression**

PLS is often referred to as a soft-modelling technique. It is an analysis approach that can be used alternatively to SEM (co-variance based). The method is less focused on covariance and more on predictions; PLS is most suitable for smaller sample sizes. According to Henseler, Ringle and Sinkovics (2009), PLS consists of an inner model, which indicates the relationships between the various latent variables, and an outer model, which indicates the relationships formed between latent variables and the corresponding observed variables. CFI and SEM were utilised initially, and finally PLS was applied as an extension of the evaluation of the relationships between the latent variables as seen in the structural model, as well as the relationships between latent variables and their corresponding observed variables as seen in the measurement model.

### **3.11. SUMMARY**

Chapter 3 has presented the research methodology that was selected to address the research-initiating question for this study. The hypothesised relationships were assessed through the ex post factor research design; empirical evidence was gathered to determine whether the hypotheses were to be rejected or supported. A



convenience sample of 519 was selected from a variety of industries so as to increase the generalisability of the findings. The measurement tools selected were assessed for sound reliability and validity and were then assembled in the form of a self-administrated online survey. To analyse the data and investigate the hypothesised relationships, item analysis, CFA, SEM and PLS were utilised. The chapter also presented various ethical concerns, as well as methods through which these could be compensated for, such as gaining management consent.

## **CHAPTER 4**

### **RESULTS**

#### **4.1. INTRODUCTION**

The following section serves to present an interpretation of the data results, followed by a discussion as an explanation of what the study has concluded regarding testing the structural model. An item analysis was performed to investigate the reliability of the latent variables. The measurement model was assessed for goodness of fit through confirmatory factor analysis. The results indicated that the model fit was less than satisfactory. In response to this, PLS analysis was performed as an extended investigation of how the inner model and outer model of the measurement model fit.

#### **4.2. VALIDATING THE MEASUREMENT MODEL**

##### **4.2.1 Item analysis**

The purpose of item analysis was to evaluate the degree to which the measurement items for a particular construct demonstrate consistency. Cronbach's alpha was used to assess the internal consistency reliability, in terms of which good items were identified as having high internal consistency and poor items indicated a low internal consistency. To identify a reliability score as adequately high, the score needed to be  $\geq .70$  (Nunnally, 1978). Inter-tem correlations are used to determine the degree to which consistency was evident between the various items of a measurement tool.

Table 4.1 below presents the results from the item analysis for each of the five constructs assessed in this study. All the Cronbach's alpha values exceeded .70, with three of the five constructs reflecting a score above .85. The internal consistency of the items thus is excellent. In addition, the divergent validity of the items was assessed and was found to be adequate.

**Table 4.1*****Summary of Item Analysis Core Statistics***

	Sample size	Number of items	Mean	Standard deviation	Cronbach's alpha	Average inter-item correlation
<i>CWI</i>	519	21	38.41	8.06	.91	.54
<i>PS</i>	519	6	27.70	6.50	.67	.27
<i>IL</i>	519	4	35.86	8.18	.96	.74
<i>OTE</i>	519	9	37.82	5.88	.74	.22
<i>VIT</i>	519	6	18.35	4.06	.88	.60

*CWI* = creative work; *PS* = psychological safety; *IL* = inclusive leadership; *OTE* = openness to experience; involvement; *VIT* = vitality

***4.2.1.1 Creative work involvement***

The Cronbach's alpha score for creative work involvement was .91, which reflects excellent internal consistency reliability. If any of the items were to be deleted, the Cronbach's alpha score would not increase, thus no items were deleted. The average inter-item correlation score was .54.

***4.2.1.2 Psychological safety***

Psychological safety obtained a Cronbach's alpha value of .67; this reflects marginally satisfactory internal consistency reliability. If item PS-2 were to be deleted, the Cronbach's alpha value would increase to .68; however, this is only a minor increase and does not warrant the elimination of this variable. If any of the other items were to be deleted, the Cronbach's alpha value would not increase. It thus was decided that none of the items would be deleted.

The average inter-item correlation was .27. Most of the inter-item correlation values were either above .5 or slightly below .5 (.5; .42; .5; .57). However, PS-2 and PS-4 both reflected inter-item correlation scores of .26; these items are also reverse scored in the survey, and they are the only reverse-scored items in the section assessing psychological safety. The lowest inter-item correlation score was also obtained by PS-2 and PS-4, while the highest score was obtained by PS-6.

#### **4.2.1.3 Inclusive leadership**

The Cronbach's alpha value for this construct was .96; this reflects excellent internal consistency reliability. If any of the items were to be deleted, this alpha value would not be increased; thus none of the items was deleted.

#### **4.2.1.4 Openness to experience**

Openness to experience reflected a Cronbach's alpha value of .74, which is an acceptable degree of internal consistency of reliability. If any of the items were to be deleted, there would be no increase in the Cronbach's alpha value; however, only marginal decreases in the value would be evident. Thus no items were deleted.

#### **4.2.1.5 Vitality**

The Cronbach's alpha score for vitality was .88, which means that there was excellent internal consistency reliability. If VIT-1 were to be deleted, the alpha score would be increased to .89; this minor increase did not warrant deleting this item. Deleting any of the other items was not reflected in an increase in the Cronbach's alpha score, thus no items were deleted.

#### **4.2.1.6 Conclusions regarding reliability of latent variable scales**

In completing the item analysis and assessing the Cronbach's alpha values and inter-item correlation scores, it can be concluded that there was excellent internal consistency reliability in these items discussed above. The Cronbach's alpha values for creative work involvement, inclusive leadership, openness to experience and vitality exceeded .70, however the lowest score that was obtained by psychological safety (.67), is slightly below .70. It can be noted that the highest score was obtained by inclusive leadership (.98). It thus was not necessary to delete any items. Moreover, one can concede the fact that openness to experience reflected a low average inter-item correlation value of .22; however, the overall inter-item correlation average was satisfactorily high. We thus can conclude that the measurements are reliable.

#### 4.2.2. Correlations between constructs

**Table 4.2**

***Summary Correlations (r values) Between Constructs***

	PS	IL	OTE	VIT
<i>CWI</i>	.2**	.14**	.23**	.31**
<i>PS</i>	-	.48**	0	.47**
<i>IL</i>	-	-	0	.42**
<i>OTE</i>	-	-	-	0
<i>VIT</i>	-	-	-	-

CWI = creative work involvement; PS = psychological safety; IL = inclusive leadership; OTE = openness to experience; VIT = vitality

\*\* p < .05 (statistically significant at the 95% confidence level)

In Table 4.2 it can be noted that only seven of the correlation coefficients were found to obtain statistical significance at the 95% confidence level ( $p < .05$ ). The correlation coefficients that obtained significance were the hypothesised impact of psychological safety on creative work involvement (.2), the impact of inclusive leadership on creative work involvement (.14), the impact of openness to experience on creative work involvement (.23) and the impact of vitality on creative work involvement (.31). In addition, statistical significance was obtained for the hypothesised impact of inclusive leadership on psychological safety (.48), inclusive leadership on vitality (.42) and vitality on psychological safety (.47).

The hypothesised relationships that did not receive statistical significance were the impact of inclusive leadership on openness to experience (0), the impact of openness to experience on psychological safety (0) and the impact of vitality on openness to experience (0).

#### 4.2.3 Interaction model test for moderation

Testing for the moderating effect revealed that, when the interaction item was removed, there was a non-significant change (F-to-remove  $p = .57$ ) in the model. Thus, no moderating effect of vitality on creative work involvement was detected.

### 4.3. TESTING THE STRUCTURAL MODEL

#### 4.3.1 Fitting the structural LISREL model

In order to evaluate the model for satisfactory fit, the model first has to be assessed for exact fit ( $RMSEA = 0.00$ ), and then the model is assessed for close fit ( $RMSEA < .05$ ). When satisfactory fit is obtained, subsequent statistical analyses can take place.

Parcelling is a method of combining indicator variables together in groups; the method is used when handling sample sizes that are too small. Parcelling was utilised because the sample size was insufficient to fit a model with all the indicators. The Cronbach's alphas were calculated to review each parcel that was created in terms of the items assigned to it. Below, the results for goodness of fit with a moderator are reported and, secondly, the goodness-of-fit statistics for the model are reported without the moderator.

##### 4.3.1.1 Parcelling

Inclusive leadership was represented by three item parcels, namely openness, availability and accessibility, which were denoted as follows: IL1, IL2 and IL3. The Cronbach's alpha values for the item parcels were .93, .90 and .93 respectively. Creative work involvement consisted of three item parcels, denoted as CWI1, CWI2 and CWI3. The Cronbach's alpha values were .71, .85 and .86 respectively. Vitality was represented by two item parcels, namely VIT1 and VIT2. The Cronbach's alpha values were .77 and .85 respectively. Psychological safety was represented by PS1, PS2 and PS3. The Cronbach's alpha values were .17, .20 and .73 respectively. Openness to experience was represented by OTE1, OTE2 and OTE3. The Cronbach's alpha values were .55, .50 and .50 respectively. It is noted that some parcels had low alphas. This is a restriction for the interpretation of the Lisrel results.

##### 4.3.1.2 Goodness of fit with and without moderator

Before assessing the degree to which latent variables are significantly correlated, it is necessary to compare the structural model to the results of the empirical data that was collected and to determine the goodness of fit. In order to do so, the exact fit must first be evaluated (where  $RMSEA = 0$ ) and the null hypothesis presenting a close fit must be evaluated (where  $RMSEA \leq .05$ ).

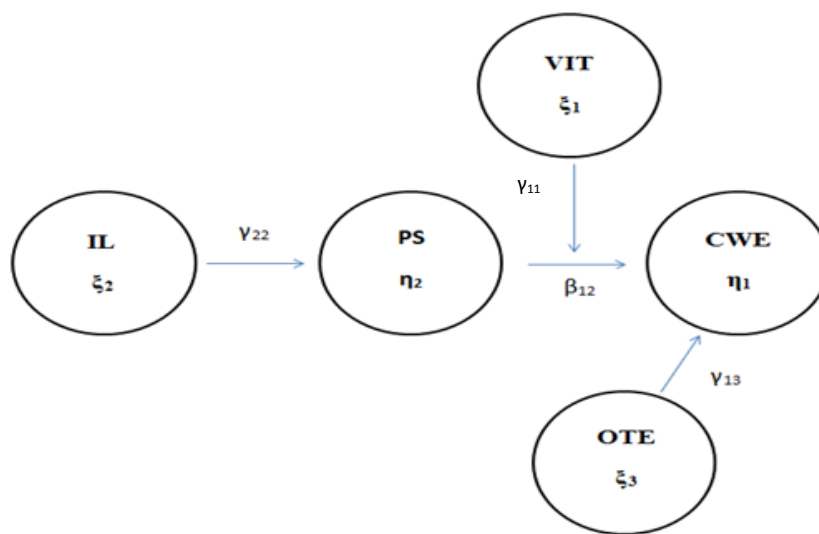
The results pertaining to the goodness of fit of the model with the moderator included, presented a Satorra-Bentler scaled chi-square value of 3943.36. In addition, the p-value for the test of close fit was ( $RMSEA < .05$ ) = 0.00. Thus the exact model fit was rejected because  $p < .05$ . Therefore, an exact fit was not obtained.

The RMSEA value of .22 was higher than the cut-off value, indicating reasonable fit ( $R < .08$ ). This fit of the model thus was mediocre. Moreover, the GFI value was .54 and the AGFI value .40 (where  $GFI > .95$  and  $AGFI > .95$ ). This indicates that, with the presence of the moderator, the measurement model had an insufficient fit.

Due to the fact that the assessment of the measurement model with the presence of the moderator indicated an insufficient fit, it was necessary to assess the model without the moderator to determine whether or not the model fit improved.

The results presented a Satorra-Bentler scaled chi-square value of 185.19. We thus rejected the null hypothesis that represented the exact model fit. This means that  $RMSEA < .05$  was accepted. In addition, where the p-value for the test of close fit was .072 and  $RMSEA < .05$ , the null hypothesis of close fit was accepted ( $p > 0.05$ ). It thus could be concluded that there was a decent fit.

The RMSEA value of .059 was below the cut-off value, indicating reasonable fit ( $R < .08$ ). There thus was a decent fit. Moreover, the GFI value was .95 and AGFI value .92 (where  $GFI > .95$  and  $AGFI > .95$ ). This indicated that the structural model showed a sufficient fit without the moderator. The moderator should thus be excluded from the model. Figure 4.1 depicts the original structural model that was evaluated in this study.



**Figure 4.1. Structural model**

#### 4.3.2 Conclusions regarding fit of structural model

It can be concluded that, with the moderator, close fit was rejected. Close fit was, however, accepted without the moderator. This provides evidence against the moderating effect of vitality on the relationships between psychological safety and creative work involvement. The path coefficients are assessed below.

#### 4.3.3 Investigating the path coefficients

In order to obtain information regarding the strength of the relationships between the variables, the path coefficient scores were examined.

**Table 4.3**

#### Report of t Statistics

Variable	CWI	PS	IL	OTE	VIT
CWI	-	1.21	-	5.75	6.85
PS	-	-	10.65	-	-
IL	-	-	-	-	-
OTE	-	-	-	-	-
VIT	-	-	-	-	-
PS*VIT	-	-	-	-	-

CWI = creative work involvement; PS = psychological safety; IL = inclusive leadership; OTE = openness to experience; VIT = vitality

Table 4.3 above presents a report of the t-values for the respective variables. The effect of psychological safety on creative work involvement ( $\beta_{12}$ ) was 1.21 ( $-1.96 < t$ -



value  $< +1.96$ ), while all the remaining t-values were above 2, with the highest t-value being reflected in the relationship between inclusive leadership and psychological safety ( $\gamma_{22}$ ). Table 4.4 below presents the path coefficient values for the relationships between the variables.

**Table 4.4**  
**Path Coefficients**

Variable	CWI	PS	IL	OTE	VIT
CWI	-	.06	-	.29	.32
PS	-	-	.60	-	-
IL	-	-	-	-	-
OTE	-	-	-	-	-
VIT	-	-	-	-	-
PS*VIT	-	-	-	-	-

CWI = creative work involvement; PS = psychological safety; IL = inclusive leadership; OTE = openness to experience; VIT = vitality

The relationships between the latent variables that were hypothesised were assessed for significance. Hypotheses 1, 2 and 3 were all shown to be statistically significant. Lastly it was also found that the relationship between vitality and creative work involvement was significant, even though this was not initially hypothesized.

In order to evaluate the results obtained through LISREL the researcher decided to utilise partial least squares methodology as well..

#### **4.4 PARTIAL LEAST SQUARES (PLS) PATH ANALYSIS**

As discussed above, when comparing the structural model to the data that was collected, an exact fit was not obtained. This was concluded after examining the goodness-of-fit statistics and was further supported by the GFI and AGFI values. For this reason it was necessary to carry out a PLS assessment to further assess the structural model and the possible presence of moderators.

Moreover, the model was checked for multicollinearity and it was shown to be adequate because all tolerance indices were higher than .2. The lowest tolerance score was .73, as obtained by vitality, and the highest tolerance score was .99, as obtained by openness to experience. Illustrated below is the revised structural model, in which the moderating role of vitality has been removed; the model instead illustrates the new finding, in which vitality is shown to have a direct positive impact on creative work involvement.

#### **4.4.1 Reliability analysis**

Included in the PLS analysis was the reliability analysis to investigate the fit of the outer model and the reliability of the latent variables. The following section presents the composite reliability (measuring the latent variable reliability) and then the average variance (measuring degree of variance evident in indicator variables). When measuring the composite reliability, scores higher than .70 are considered satisfactory. When measuring variance evident in the indicator variables, scores that exceed .5 are indicative of the constructs within the latent variable scales, which are in fact related.

When observing all the average variance extracted, each one is greater than .5, except for OTE and PSYCHOLOGICAL SAFETY\*VITALITY, which reflect average values of .3 and .12 respectively. Overall, the average values are adequately high. The lowest average obtained was the moderating role of PS\*VIT; the highest average obtained was for inclusive leadership (.76).

The composite reliability values are all greater than .7, except for PSYCHOLOGICAL SAFETY\*VITALITY, which obtained a composite reliability of .32.

Moreover, the R-square values reflected a value of .3 for psychological safety and .2 for creative work involvement. Table 4.5. below displays the values discussed.

**Table 4.5 PLS Core Results**

<b>Scale</b>	<b>Average variance extracted (AVE)</b>	<b>Composite reliability (outer model)</b>	<b>R square (inner model)</b>
<i>CWI</i>	.60	.93	.2
<i>PS</i>	.40	.8	.3
<i>IL</i>	.76	1	
<i>OTE</i>	.30	.80	
<i>VIT</i>	.70	.9	
<i>PS*VIT</i>	.12	.32	

OTE = openness to experience; IL = inclusive leadership; PS = psychological safety; CWI = creative work involvement; VIT = vitality

#### **4.4.1.1 Conclusions regarding reliability**

The highest amount of variance was reflected by inclusive leadership, with a score of .76. The R square value, which is an indicator of the variance evident in the endogenous latent variables, indicated that the model accounted for a sufficient degree of variance. Inclusive leadership, openness to experience, vitality and the moderating role of vitality displayed an R square value of 0, as these are the exogenous variables. The highest R square value was reflected by the psychological safety score of .3, and the lowest R square value score was .2, relating to creative work involvement. This implies that the model accounted for 30% of the variance observed in psychological safety. In addition, the model also accounted for 20% of the variance observed in creative work involvement.

In terms of reliability, it can be reported that five of the six variables that were assessed reflected a satisfactory level of reliability. However, PS\*VIT, which indicates the moderation effect of vitality on creative work involvement, did not reflect reliability. PSYCHOLOGICAL SAFETY\*VITALITY was not a theorised construct but an artificial one constructed to test for moderation. Therefore the reliability properties are not of major concern.

#### **4.4.2 Investigating path coefficients**

In order to determine the significance and strength of the relationships proposed by the hypothesised paths illustrated in the structural model, the path coefficients of

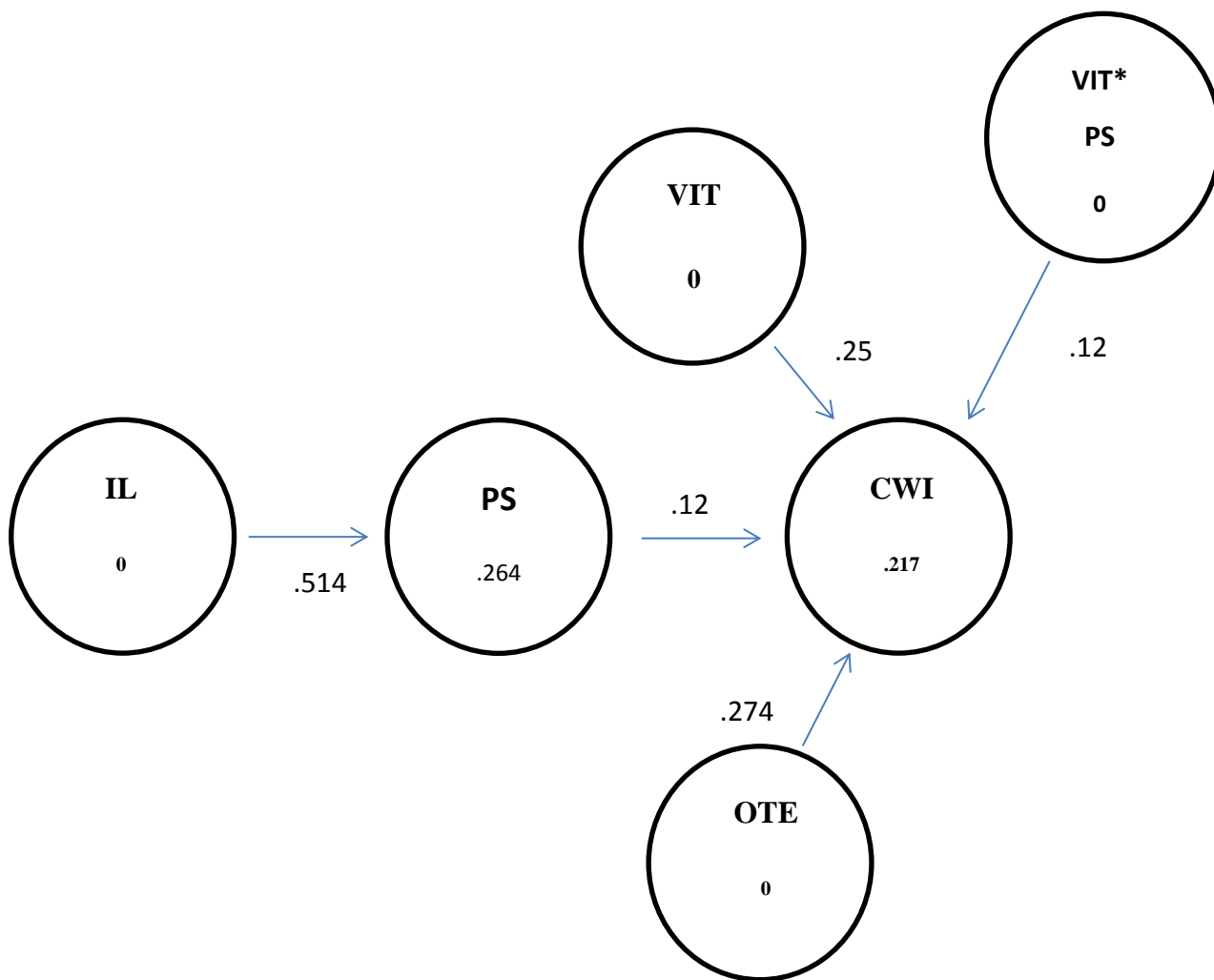
each relationship were assessed as part of the analysis. When zero falls within the 95% confidence interval, it indicates that the path coefficient (and hence the proposed relationship) is not significant.

As discussed above, only one of the relationships was shown not to be significant, while the rest of the relationships obtained significance. Table 4.6 below presents the path coefficients of the various relationships. It is evident that, at the 95% lower level, the moderating effect of vitality on the path between psychological safety and creative work involvement (i.e.  $\beta_{12}$ ) is not significant, as a negative path coefficient value is obtained. It can also be noted that 0 falls within the 95% confidence interval (-0.21 – 0.27), this is an indication that the path coefficient of 0.12 was not significant.

**Table 4.6**  
**Factor Loadings**  
**(PLS)**

	Path coefficient	Bootstrap mean	95 % lower	95 % upper	Description
<b>Path</b>					
<i>PS</i> → <i>CWI</i>	.12	.12	.02	.21	Significant
<i>IL</i> → <i>PS</i>	.51	.52	.44	.6	Significant
<i>OTE</i> → <i>CWI</i>	.27	.29	.22	.35	Significant
<i>PS</i> * <i>VIT</i> → <i>CWI</i>	.12	.08	-.21	.27	Not significant
<i>VIT</i> → <i>CWI</i>	.25	.26	.17	.35	Significant

*OTE* = openness to experience; *IL* = inclusive leadership; *PS* = psychological safety; *CWI* = creative work involvement; *VIT* = vitality



**Figure 4.2.** PLS report for the revised structural model

#### 4.5 INTERPRETING THE PROPOSED HYPOTHESES

Based on the findings from the data analysis, which reflect either rejection or support of the various hypotheses, it is important to observe these findings in the light of what the literature framework suggests about the relationships and interaction of variables.

##### 4.5.1 Relationships between psychological safety and creative work involvement

The relationship between these two variables was hypothesised to demonstrate a positive effect; this was indeed found to be the case when observing the PLS path coefficient of .12. It was found that zero did not fall within the 95% confidence interval; therefore the correlation was found to be significant. This finding confirms

that of prior research, which indicated that when the presence of psychological safety is high, so too is engagement in creative work (Kark & Carmeli, 2009).

In addition, Madjar et al. (as cited in Kark & Carmeli, 2009) showed that creativity was significantly affected by the moods experienced by employees. Receiving encouragement and support from colleagues was shown to influence the degree to which the employee experienced vitality and positive moods at work. In this way, vitality was shown to be a contributing influence in the interaction between psychological safety (state of experiencing support) and creative work involvement. The demonstration of innovative behaviours at work was often preceded by evidence of trust and connectivity, both of which are characteristic of psychological safety, which cultivates reassurance for the employee that the environment is a safe one in which to be open, vulnerable and engage creatively (Kark & Carmeli, 2009). The finding of the current study is also further reinforced by research on the collective creative idea-generation process of brainstorming, namely that brainstorming can in fact be highly unproductive as creative contributions may be hindered by fear of harsh criticism and social anxiety, for example (Kark & Carmeli, 2009). This result reinforces the support received for hypothesis 1 in the current study, which illuminates the importance of the presence of a safe environment in which individuals feel that they can be vulnerable in order for creative work involvement to flourish

Moreover, Baer and Frese (as cited in Kark & Carmeli, 2009) found that the climate for psychological safety and process innovativeness reflected a positive relationship. It is conceded that the nature of the psychological safety assessed in their study was not individual-level psychological safety; however, the fundamental finding, which revealed the importance of a safe environment for the successful outflow of creative behaviour, is identified as significant support for the support obtained for hypothesis 1 in the current study.

Furthermore, Edmondson (as cited in Kark & Carmeli, 2009) provides a definition of psychological safety as the perception held by an individual that engagement in risk behaviour within the work context (such as experimenting with new ideas), is unlikely to lead to negative feedback such as harsh criticism or punishment of some kind. The presence of psychological safety releases individuals to take interpersonal risk without fear that their reputation will be tarnished. Individuals who operate in work environments where there are high levels of psychological safety are given the

space to present ideas that may oppose tradition or culture or that challenge the status quo. Permission to deviate and diverge is communicated through a highly psychologically safe environment. Kahn (as cited in Leung et al., 2015) posits that psychological safety creates an environment in which employees become more open to thoughts and ideas. There thus is a close connection between risk taking and novelty, which is greatly dependent on an individual's willingness to explore new ideas. This demonstrates one of the major reasons why creativity – which is also dependent on willingness to explore new ideas and experiment – flourishes within the presence of psychological safety. Creative work involvement refers to time and energy exerted creatively on work tasks. Regarding innovation, Carmeli and Spreitzer (2009) say that it is the application of that which is new; however, opposition to change and extraordinary ideas is an expected response. There thus is a need for a supportive environment that is open to novelty. The current study showed that when there was strong evidence of employees who were challenging the status quo, experimenting with new methods for task completion and engaging creatively at work, there also was strong evidence for the presence of psychological safety within the work environment. In this way it is clear how reports from the literature framework are supported and confirmed by the finding of the current study that states that psychological safety has a positive effect on creative work involvement.

#### **4.5.2. Relationship between inclusive leadership and psychological safety**

The hypothesised relationship between inclusive leadership and psychological safety was found to be statistically significant. The PLS path coefficient for this path reflected a score of .51 and zero was found not to fall within the 95% confidence interval; there was partial correlation within the model.

The correlation was thus found to be significant. This finding is well aligned with prior research that demonstrated a similar correlation between evidence of inclusive leadership and that of psychological safety. Carmeli et al. (2010) posit that, when leaders are explicitly open, available and accessible to their employees, they communicate a clear invitation for employees to openly share new ideas, and that there is safety in approaching ideas creatively. Edmondson (cited in Carmeli et al., 2010) found that leaders who expressed these three dominant traits also demonstrated leader benevolence, that is genuine concern and sincere care for

employees. Additionally, leaders demonstrating these traits also show higher levels of support that provide evidence of psychological safety. Trust between the leader and the follower is also higher where there is evidence of inclusive leadership. These findings that support the positive effect that inclusive leaders have on psychological safety are in alignment with the support received for hypothesis 1 in the current study.

Moreover, leaders who cultivate a relational approach such as inclusive leadership within their leadership style tend to contribute towards the orchestration of creativity at work (Carmeli et al., 2010). Edmondson (in Kark & Carmeli, 2009, p. 788) found that learning and innovation were promoted through leaders who were able to cultivate a climate in which individuals felt safe and thus where psychological safety was evident. It is through the proactive enforcement and encouragement of new ideas that inclusive leaders are able to cultivate a sense of security (Carmeli et al., 2010). Open and available leaders allow norm-defying ideas to be pursued and explored without great restriction; creative ideas thus can be development easily where inclusive leadership is present (Carmeli et al., 2010). Employees who perceive openness from their leaders are more likely to identify the environment as a safe one in which to render themselves vulnerable (Edmondson, as cited in Carmeli et al., 2013).

#### **4.5.3. Relationship between openness to experience and creative work involvement**

The hypothesis proposing that openness to experience has a positive impact on creative work involvement was found to be significant. The PLS coefficient for this path was .27 and zero was found not to fall within the 95% confidence interval. This finding confirms results gathered in prior research that also demonstrated the correlation between openness to experience and creative work involvement. Research shows that, when examining personality traits, openness to experience and conscientiousness are the variables that are most indicative of creative performance.

George and Zhou (2001) posit that openness to experience is among the personality traits that are most predictive of creative behaviour. These individuals have been shown to display a willingness to participate in activities or processes that require



engagement with that which is unconventional and novel and that provide the opportunity for variability, all of which are core for creative behaviour (Le Pine et al., 2000). In addition, Schilpzand et al. (2011) posit that openness to experience and individual creativity are clearly linked, both empirically and practically. George and Zhou (2001) also found that employees who are more open to experiences are likely to be more adaptable to change. The implication of the adaptability to change is that the individual remains flexible to ideas that defy the norm; creative work involvement demonstrates an individual's desire to experiment with new methods of task completion and challenging the status quo. These findings assert a clear link between openness to experience and creative work involvement; this functions as suitable support for the hypothesis that was shown to obtain statistical significance in the current study

Moreover, employees who demonstrate personality characteristics such as being highly imaginative, independent in their thinking and curious are also inclined to display high engagement in creative tasks (George & Zhou, 2001). In addition, new tasks that are completed and new knowledge that is to be acquired are well received by individuals who also display openness, as they are more likely to be adaptable to change. There thus also is a greater inclination to be innovative and think or behave in creative ways (Le Pine et al., 2000). Employees who express high levels of openness to experience tend to display originality in their various work tasks, which is an indication of creative work involvement (Kark & Carmeli, 2009). Schilpzand et al. (2011) say that, both conceptually and empirically, one can closely associate openness to experience with individual creativity.

#### **4.5.4. Moderating effect of vitality**

The hypothesised positive impact of vitality on the relationship between psychological safety and creative work involvement was in fact found not to be statistically significant. The PLS path coefficient reflected a score of .12 and zero was found to fall within the 95% confidence interval. Vitality thus does not have a positive impact on the relationship between psychological safety and creative work involvement according to the findings of this study.

This finding is in contrast to a number of outcomes that were identified in the literature. For example, Madjar et al. (as cited in Kark & Carmeli, 2009) showed that

creativity was significantly affected by the moods experienced by employees. Receiving encouragement and support from colleagues was shown to influence the degree to which the employee experienced vitality and positive moods at work. In this way, vitality was shown to be a contributing influence in the interaction between psychological safety (state of experiencing support) and creative work involvement. The findings of Madjar et al. (2002) thus oppose the findings of the current study. In addition, Dutton and Heaphy (as cited in Kark & Carmeli, 2009) found that vitality (energy) at work can encourage employees to perceive their environment as life enhancing, allowing them to recognise sincere connections between colleagues and encouraging them to be more open and willing to experiment with new ideas. This study points towards vitality as a factor that influences creative work involvement through the structure of psychological safety and the feeling of connectedness.

In addition, according to the Model of Thriving developed by Spreitzer et al. (as cited in Atwater & Carmeli, 2009), it is indicated that individuals become energised through interactions that demonstrate close relations formed with others. In fact, Quinn (as cited in Atwater & Carmeli, 2009) discusses how there is a positive correlation between the quality of relationships and the level of energy that will be experienced. This points towards how psychological safety can engage vitality and ultimately assist in the cultivation of creative work involvement. Despite these findings, hypothesis 4 has not received support.

Moreover, Kark and Carmeli's (2009) study examined how psychological safety is associated with vitality and a corresponding effect of creative work involvement. It was found that vitality was not operating as an external influence in isolation, but was rather affected by psychological safety and, as a result, had a positive effect on creative work involvement. The hypothesis that vitality would merely strengthen the relationship between psychological safety and creative work involvement removes the prospect that vitality could be affected by either of those two variables and, as a result, allow for a strengthening of both. This is especially important for the impact that vitality has on creative work involvement itself. This will be discussed further below, although Amabile et al. (as cited in Kark & Carmeli, 2009) found that positive affect bolsters creativity. There thus is more evidence for vitality as a variable that directly influences creative work engagement and is directly influenced by psychological safety, according to Baer and Frese (as cited in Kark & Carmeli,

2009), who found that there was a positive relationship between the presence of psychological safety and process innovativeness, the latter which is indicative of creative work involvement.

#### **4.5.5. Effect of vitality on creative work involvement**

The following finding did not form part of the original hypotheses that were constructed for the purpose of this study; however, in the analysis of the responses it was discovered that, although vitality did not have a moderating effect on the relationship between psychological safety and creative work involvement, the variable did in fact have a positive impact on creative work involvement. The PLS path coefficient reflected a value of .25, and zero was found not to fall within the 95% interval. In comparison to prior research, this result is found to confirm the findings of alternative studies.

Scott and Bruce (as cited in Atwater & Carmeli, 2009) found that, in order for creativity to thrive and for products or outcomes to reflect creative effort, energy was required for employees to engage creatively. In addition, according to the Broaden-and-Build model, positive emotions create an experience that enhances cognitive resources; positive feelings are associated with novelty and creativity (Atwater & Carmeli, 2009). The availability of positive emotions ushers in a greater variation of cognitive resources, allowing the individual to extend his or her cognitive associations such that creative thinking is encouraged. Kark and Carmeli, (2009) thus indicate empirical evidence linking vitality with a corresponding engagement in creative tasks. Moreover, Oldham and Cummings (as cited in Atwater & Carmeli, 2009) also state that, when individuals experience vitality, energy and genuine excitement about the task itself, it is likely that they also will demonstrate more creativity than those who are not experiencing the same levels of positive affect.

Kark and Carmeli's (2009) findings indicate that employees experiencing vitality are more likely to experience enhanced creativity whilst completing work tasks within their environment. Amabile et al. (scited in Kark & Carmeli, 2009) also found that vitality (identified through positive affect) had a significant positive effect on behaviour that demonstrated evidence of creative thinking. Amabile et al. (as cited in Kark & Carmeli, 2009) emphasises how, in order for creative processes and creative thinking – and thus involvement in creative work – to flourish, the individual's

experience of positive emotions and vitality is a crucial component to stimulate creativity. The experience of vigour and excitement, and the feeling of being energised and enthusiastic, strongly assist the individual to engage creatively. Interestingly, research also suggests that engagement in creative processes, the experience of feeling free to create and experiment, could in turn fuel vitality and positive affect. This suggestion of a cyclic process in which the two constructs may indeed feed into each other is consistent with findings drawn from Amabile et al. (2005, as cited in Kark & Carmeli, 2009) and from the affect-creativity model.

#### **4.6. SUMMARY**

This chapter presented the statistical analyses that were performed and the results gathered from the process. The item analysis performed on each construct allowed for the validation of the measurement model. The reliability of the measurement items were also assessed. CFA was harnessed to determine the model fit; it was found that the model was not a perfect fit. PLS was then applied to further evaluate the construct item reliability evident in the latent variables. The result of this assessment was that each item was shown to be sufficiently reliable such that no items were omitted from the final questionnaire administered to the participants. PLS was also used for the evaluation of the path significance of each relationship hypothesised in the model. Through this procedure it was shown that hypotheses 1, 2 and 3 were shown to be significant, while hypothesis 4 did not receive support. Finally, it was found that, although vitality did not have a moderating effect on the relationship between psychological safety and creative work involvement, the construct was found to have a positive impact of creative work involvement. This was not a hypothesis posed for assessment in this study in advance; nonetheless, it is noted that statistical significance was found for this relationship.

## **CHAPTER 5**

### **IMPLICATIONS, LIMITATIONS AND FUTURE RECOMMENDATIONS**

#### **5.1. INTRODUCTION**

The purpose of this section is to present the reader with the managerial implications of the research that has been completed. The aim is to illuminate methods through which creative work involvement and innovation can be further activated in organisations. The findings of the current study are used as a foundation from which the managerial implications are presented. These findings confirm several hypotheses within the context of South Africa, and each one is loaded with implications that extend beyond the immediate significance of the hypothesis. Furthermore, there are a number of factors that limited the scope of the study that are reported here. Lastly, this section points towards additional areas of research that can be explored in the future.

#### **5.2. MANAGERIAL IMPLICATIONS**

Discussed below are the implications of these research findings for managers who wish to cultivate creativity in their work environments by engaging creative work involvement in their employees. The managerial implications are presented within the construct categories.

There have been considerable developments in the knowledge that has accumulated through research in the area of fostering creativity. The understanding and development of creativity are not best established through unitary means, but through a combination of complementary disciplines and a total-system approach. It also is crucial for managers to acknowledge that each employee is able to demonstrate creativity, although this will exist in varying levels and will be exhibited in different ways (Wang & Netemeyer, 2004). This information is crucial for organisations and society at large to know in order to receive and utilise creativity in its various forms.

This section explores the relevance of this research study for practitioners in the field of human resource management, organisational leaders and the working world at large. The purpose of this study points us toward the organisation and global advantages that lie in the awakening and development of creative work involvement.

The findings have confirmed the great leverage that leaders have in contributing either towards the ignition or suppression of creativity at work. The research results also point towards the impact that a team has on the individual's creative work involvement; managers and recruitment practitioners are also given access to an important personality variable to identify when hiring for creativity. The results ultimately confirm that reaping the benefits of creativity and innovation at work arises from taking a proactive approach towards fostering this behaviour through managerial decisions, strategies, structures and interventions that contribute to individuals, and subsequently teams, being allowed to engage creatively at work.

The environment should communicate encouragement of creative thinking rather than of routine or habitual processes. When such cues are positioned within the work environment, and resources that support creativity are evident, the workforce understands that the leaders in the organisations not only permit, but expect, innovative behaviour to take place at work (Madjar & Greenberg, 2011). These resources may include associated finances, a greater allowance of autonomy and a time designation that is mindful of creativity or imparting expert knowledge or skills to personnel. Managers can even take measures such as matching employees with projects of varying creative demands, in accordance with their work experience (Zhang & Bartol, 2010). There thus is a dynamic collection of aspects that can be implemented to cultivate innovation in an organisation. Some of these are discussed below.

### **5.2.1. The individual and creative work engagement**

The research has indicated that, as identified in prior research, creativity is most effectively stimulated when both individual and contextual variables are strategically aligned towards a unified objective of growing innovation. The implications of the research thus delve into both the individual and collective level; the managerial actions taken regarding the individual level are discussed below. The results of this research study have shown that openness to experience has a significant positive effect on creative work involvement. Previous research has shown that individuals who are high on openness to experience demonstrate high levels of creative behaviour when they receive positive feedback and when there is an unclear end result on the work being done. This indicates that, whilst individuals who measure high on openness to experience are likely to exhibit high levels of creative work

involvement and creative behaviour, there is a need for certain conditions to be in place in order for them to bear optimum results (George & Zhou, 2001). The managerial implications of motivating creative people who display high levels of creative work involvement are discussed below. It is emphasised that the conditions in which creative people operate will have an impact on their performance. Regardless of the creative potential of individuals, if the situational factors do not stimulate and support creativity, this individual's potential will not be utilised with as much effect as it could have been in more fertile conditions. It thus is integral for managers to understand the disposition of creative employees and effectively facilitate this potential.

#### ***5.2.1.1. Harnessing individual-level creativity***

The management of creative employees is often considered to be challenging and counter-intuitive. There is a need for managers to tolerate error and risk, permit a large amount of autonomy and offer continuous praise for creative efforts, regardless of the ultimate results. Monetary rewards for creativity have been shown to have a counterproductive effect on creative people – this also constitutes an important knowledge area for managers who wish to see growth in the area of creative work involvement in their staff groups.

#### **Creative disposition and supportive management**

Individuals who display high levels of openness to experience also tend to be independent thinkers who have a disposition towards being open to new ideas and experiences. They also display a particular sensitivity towards aesthetic factors. Individuals who exhibit higher levels of creativity tend to be curious and imaginative in their thinking approach (George & Zhou, 2001). They display an inclination towards having unconventional perspectives. These individuals have a preference for depth of experiences and a specific appreciation for variety and novelty. Individuals who display high levels of openness to experience are less likely to pursue a more conventional approach and tend not to be drawn to that which is familiar or that which calls for routine (McCrae, 1996, as cited in George & Zhou, 2001). In addition, they tend to be fairly insular and rather complex and chaotic in nature (Mumford, 2000). Individuals who display high levels of openness to experience consequently are able to harness a greater variety of ideas, emotions



and information than individuals who are lower on openness to experience. This enhances the tools available for generating ideas that are new and different from the norm. It is clear that, while individuals who display high levels of openness to experience may present challenges for managers, these are also employees who are likely to challenge the organisation to become more competitive through questioning the status quo and presenting ideas to which other teams or organisations may not be exposed.

The recommended approach is firstly for organisational leaders to identify the employees who display high levels of openness to experience through the use of psychological assessments. In doing so, behaviour that may be perceived as rebellious, disruptive or chaotic can be understood more accurately by these managers as the outflow of a personality disposition that, when harnessed correctly, can render an organisation competitive. Routine and conventional ideas tend not to stimulate these individuals, thus it is recommended that leaders create provision for a flexible schedule for these employees in order to allow for optimum conditions for performance. The physical environment needs not be fixed, as these individuals are also sensitive to aesthetics; leaders should create opportunities for creative employees to work in varying environments that present aesthetic factors that are conducive to high performance. With an appreciation for depth of experience, leaders should seek to motivate employees through ways in which they may be exposed to a greater variety of experiences, as well as experiences that engage novelty and even emotion.

In considering the finding in this study that showed the positive impact of openness to experience on creative work involvement, it is necessary at this stage to consider the following. The purpose of taking managerial decisions to create a more fertile environment for individuals who are high on openness to experience to perform better is to encourage the individuals to spend more time and effort creatively engaging with work-solving problems, findings new uses for existing methods and identifying new opportunities for growth (Carmeli & Schaubroeck, as cited in Kark & Carmeli, 2009).



### **Managerial influence on individual motivation and creativity**

Creativity has been shown to be energised and fuelled when the individual experiences intrinsic motivation, while extrinsic motivation tends to diminish the desire and drive to engage creatively at work. Intrinsic motivation did not form part of the assessment of this research, yet previous research conducted on this construct presents meaningful and valuable recommendations for creativity and the managerial influence; a short segment is thus included here for further insight. Intrinsic motivation implies that there is a distinct desire that the individual experiences towards the task; the motivation spans further than merely receiving a monetary (external) reward for completing the task. In short, external motivation implies that there is an external goal that needs to be achieved; this is the end result of the task (Glăveanu, 2010). This type of motivation does not activate or awaken a personal curiosity to experiment and apply extra effort to complete the task – this is only the case when one experience intrinsic motivation. Understanding the dynamic of intrinsic motivation and the effect that it has on creative output can truly influence creative work involvement within the organisation. It thus is important that leaders do not primarily use monetary rewards as a way to attempt to motivate employees to provide an output of creative work. Instead, leaders should attempt to ignite an interest and curiosity in the individual for the task, strategically aligning projects and employees in accordance with interest and skill so that the individual not only feels equipped to do the task, but also would dig deeper to engage creatively, as personal interest functions as an intrinsically motivated drive to create and innovate. Moreover, Isfahani (2015) found that nurses who were more creative and innovative at work were also the employees who experienced the most passion, interest and enjoyment of their work. Intrinsic motivation was rooted in passion for the role and resulted in a desire to improve upon methods and services through creative thinking.

### **Proactive managerial support for individual creativity**

Individuals who display high levels of openness to experience express a particular appreciation for novelty, improvement and change. They actively seek ways in which to challenge the status quo and thus may try to make decisions in order to execute tasks in ways that have not been done before. It was mentioned previously that these employees are also highly sensitive to feedback and need to receive praise for creative efforts, regardless of the result. In the area of tolerating risk and error, this

becomes a pertinent point for managers (Carmeli & Schaubroeck, as cited in Kark & Carmeli, 2009). If leaders desire to encourage creative behaviour and creative engagement with tasks at work, individuals who are most likely to engage (those that are high on openness to experience) will seek new ways in which to carry out tasks, and these methods may fail. Negative feedback will have a detrimental effect on these employees and will remove the sense of safety that is necessary for experimentation to take place. Individuals who are high on openness to experience are deeply attuned to their feelings and perceive experiences with greater intensity than individuals who display lower levels of openness to experience, thus making negative feedback a strong source of discouragement that can have detrimental results (George & Zhou, 2011). As a result, if these individuals receive negative feedback, they are likely to seek alternative channels through which to engage their creativity; their creative behaviour thus will be expressed in non-work-related activities. Managers should seek to create safety nets for experimentation and allow these employees to pursue new opportunities. If failure can be met with encouragement as opposed to punishment, creative employees will respond well, as the safety of the environment will be re-affirmed. Regardless of the result, managers need to provide continuous praise and recognition for creative efforts. This will satisfy the individual's need to receive attention and acceptance for his/her creative efforts, and as a result intrinsic motivation will be maintained (George & Zhou, 2001).

### **Communicating trust through autonomy**

The individual who displays high levels of openness to experience and receives positive feedback at work and encouragement to engage creatively will also thrive when requested to perform tasks that are heuristic rather than algorithmic. In keeping with the individual's preference for novelty and unconventionality and disposition towards curiosity, this individual would also display a preference for tasks in which there are multiple ways (at least three) of reaching the objective (George & Zhou, 2001). This is termed a heuristic task. Furthermore, heuristic tasks do not require one to identify a single solution or formula to deliver results, but rather present a task with an unclear end as well as an unclear means through which to reach the end. If the result is unclear, this implies that the method through which the result is delivered is also not defined. The individual who is high on openness to experience displays a preference for such complexity of tasks, and managers thus

should seek to position these individuals in job tasks in which both the end and means to the end allow for variety, divergence and creativity. Managers should seek to challenge these employees on three levels: tasks should present an unclear end, an unclear means as well as the potential for multiple means to be used to reach the end (George & Zhou, 2001).

On the other hand, algorithmic tasks require one simple method through which to reach the end result, and this method is often easily recognisable. These tasks do not present employees with the same quality of complexity that is available in heuristic tasks. Individuals who measure high on openness to experience should be exposed to heuristic tasks, as they offer the following types of challenges: ambiguity in how to proceed, difficulty in how goals and objectives can be reached, and the employee should be requested to determine ways in which to complete the task. These challenges present the opportunity for creative work involvement. Managers should seek ways in which to present and design tasks so that these options become available when aiming to motivate employees who are high in openness to experience (Kark & Carmeli, 2009).

### **Practicing fairness to support creativity**

Amabile (as cited in Simmons, 2011) also stresses the importance for individuals to perceive equity, without which there is potential for perceived unfairness to produce dissatisfaction and obstructions to creativity. For example, should the individual be required to fulfil a role or complete tasks for which he or she feels under-equipped, the individual may perceive this as unfair, in which case appropriate workforce development should be implemented to ensure that employees feel equipped to effectively fulfil work demands. When an employee feels that his or her skill level is deficient while that of peer workers is not, the individual may be discouraged about his or her capacity to engage creatively at work (Simmons, 2011). The current study has discussed how creativity requires an individual to engage beyond the rudimentary level of completing a task; the individual is required to think divergently and apply novel ways of addressing a problem. It therefore is logical that an individual who feels ill-equipped to complete the rudimentary requirements of the job role will not be likely to engage creatively, employing him- or herself ever deeper in the task for innovative results. Managers thus should be mindful that resources and knowledge are primarily accounted for before expecting innovation to flourish.

In addition, alongside perceived fairness from managers, employees will also soon create an association with the degree of respect and dignity with which management interacts with personnel. A perceived lack thereof may disrupt the individual's willingness and drive to exert more effort than what is necessary, leading to a negative experience of the environment as negative such that creative output is stifled.

#### ***5.2.1.2. Managing individual creative involvement through recruitment and team design***

Naturally, organisations that wish to cultivate high levels of creative work involvement need to recruit and select individuals who display high levels of openness to experience. Based on the above-discussed disposition of someone with this personality trait, there is a tendency to prefer unconventional routes, novelty and environments that are aesthetically engaging. In order to attract and retain these individuals, the work hour structure should present opportunities for flexibility in order to ensure that the limiting factor of routine does not act put off such candidates. The job design should also present opportunities for flexibility and changes in routine and environment, and job descriptions should promote opportunities for more heuristic work tasks. It can also be noted that the variable of creative work involvement is significantly more salient in comparison to the other variables assessed in this study. For example, to identify the employee's behaviour or explicit effort to engage creatively and challenge the status quo is significantly easier in comparison to the experience of psychological safety or presence of vitality. Whilst psychological assessments would be imperative to identify the individual's tendency to engage creatively at work, managers could harness the salience of this variable to better design teams, by identifying employees who demonstrate this type of behaviour.

#### ***5.2.1.3. Team design***

Team design has implications for an organisation's recruitment strategy and the personality dispositions that should be sought after when hiring new employees. Modern organisations place emphasis on the use of team structures for carrying out objectives. It thus is crucial to explore the implications of employees who measure high on openness to experience and the effect of this on team design. Research shows that teams that reflect group creativity are not made up merely of highly creative people or people who measure high on openness. Instead, organisational

leaders should experiment with a strategic team design that includes a dynamic combination of various skills and capacities. In this way the team can be balanced correctly and more effectively to orchestrate innovation at work (Schilpzand et al., 2011). The complexity of the problems that present themselves in our current work environments calls for a combination of skills and knowledge and a diversity in team composition to develop effective solutions (Bissola and Imperatori, 2011). This approach should not only be considered from a team-design perspective, but there is also a necessity for organisations to encourage individuals to engage imaginative and adventurous thinking, whilst still maintaining a strong capacity to execute tasks with consistency (Zhang & Bartol, 2010). This is a demonstration of innovation, in which both the imagination of the right brain as well as the logic and evaluation of the left brain work in collaboration. The result is creativity and innovation – ideas that are novel, as well as contextually valuable or appropriate.

It must be stated, however, that managers should seek to experiment with team design in order to determine the best possible composition for the organisation. Alongside the above suggestion to design teams in such a way that there is a combination of employees who are high in openness to experience, as well as high in other complementary areas, some research also posits the need for something quite contrasting: The greater the number of creative people in a group, the more creativity one can expect to observe from the group. This seemingly simple formula should be trialled within each manager's unique work environment, because the effectiveness of this formula may be determined by the *size* of the group. The greater the group, the greater the number of creative people and ideas – this could also become a stifling environment and may evolve into a counterproductive structure. Organisations are living, moving systems. The management thereof is a creative act that in itself requires a certain element of risk, experimentation and error in order to achieve the ideal innovative structures that should be in place. An article on solving business problems posits the following: "Leading organisational change requires creativity and invites experimentation" (Boyle & Ottensmeyer, 2005, p. 14).

### **5.2.2. Inclusive leadership**

Carmeli et al. (2013) suggest that the process through which leaders facilitate the outflow of creativity amongst personnel is a less-researched area of study; the structure is not yet well understood. This points towards an urgency for managers to

consider carefully the level of knowledge as well as access to resources regarding this dynamic. The findings of this study reveal how the presence of inclusive leadership has a significant positive impact on psychological safety, which in turn has a significant positive impact on creative work involvement. Inclusive leadership is expressed through openness, accessibility and availability. Leaders hold the responsibility and authority to make decisions for the organisation that can truly stifle or unleash creativity. For leaders it is important that they gather energies around a common vision for transformation and progressive, innovative thinking. Leaders can also make use of information such as the fact that the individuals who are passionate and interested in the work they do, also tend to be more creative at work (Isfahani, 2015). Within this line of thinking, managers can strategically align employees with tasks that would yield the highest creative product.

Managers who wish to cultivate psychological safety within their teams (which subsequently facilitates or creates a safe environment in which creative work involvement can manifest) should attempt to establish a relationship with their employees that is experienced as an open and safe environment in which new ideas and adventurous thinking can be presented without fear of punishment. Managers should aim not merely to present themselves as open to new ideas, but also demonstrate this openness in a tangible way, so that the manager's openness cannot be mistaken for insincerity or facade. The leadership team should experiment with a design and method in which to exhibit and exercise openness to new ideas, beyond a verbal invitation for new ideas to be voiced.

#### ***5.2.2.1. Leadership that encourages creativity at work***

Sternberg (as cited in Carmeli et al., 2013) posits that creativity implies a demonstration of behaviour that challenges the status quo. Creativity should not only be infused into organisational strategies and processes, but should also be evident in the culture and behaviour at work (Mumford, 2000). To a large extent, the management of creativity concerns human resource practices. Such practices should be all-encompassing: the individual, the group, the organisation and the strategic environment in which the organisation is found (Mumford, 2000). Innovative employees who operate in environments that do not encourage creativity will experience frustration, and the creative potential of the workforce will not materialise fully in the work space. Thus, regardless of the degree of innovative potential or the

number of creative employees who have been recruited by the organisation, if leadership styles and team climates are not conducive to creativity, the organisation may not be able to harness the full creative potential of the workforce. This illuminates the importance for leaders in organisations to be well informed on the nature of innovation as well as the strategies that can stimulate innovation in the work environment.

Innovative behaviour thus requires effort and intentionality. Employees need to be aware of their innovative potential and leaders should be sincerely expectant to observe innovation in the workplace – from all employees, not merely those who reflect high levels of openness to experience. According to Nickerson (as cited in Wang & Netemeyer, 2004), all people have some degree of creative capacity. Leaders also should be consistent in their encouragement of creative thinking and behaviour. They are the ones who instigate change for improvement; this is often perceived with anxiety or discontentment by other employees or leaders.

Wong et al. (2010) undertook a study that demonstrated the influence that leader values have on the quality of employee participation and productivity levels. The values that leaders hold in this regard can also promote psychological safety and a culture of learning within the team environment. Thus leaders should identify psychological safety as an important and effective state to encourage and cultivate in team members; a strong learning culture encourages experimentation, risk and creativity. Research has reflected how the presence of psychological safety encourages a culture of learning within an organisation (Roussin & Webber, 2012). This is significant, as learning from experiences is a strong indicator of organisational success (Carmeli & Gittell, 2009). Training in this area could be of particular value to assist leaders to cultivate an appreciation of and support for the existence of psychological safety (Wong et al., 2010). In addition, it would be significantly effective if team members in the organisation also engage in training in order to cultivate the necessary skills to allow psychological safety to grow: openly requesting assistance when necessary, and expressing relevant concerns when in challenging situations (Wong et al., 2010). When these skills are cultivated in collaboration with leader openness to such behaviour, inclusive leadership and psychological safety are given appropriate room to grow.



#### **5.2.2.2. Interventions to further innovation at work**

Another channel through which managers are able to influence the creative work involvement of their personnel to a great extent is through the implementation of effective training interventions that can be catalysts for change in the area of team culture, problem solving and creative thinking, for example. Training and development provide an opportunity for employees to be up-skilled in both the cognitive and technical aspects of creativity development: management may decide to enforce creative problem-solving or creative writing courses to develop divergent and innovative thinking skills (Tan, 1998).

The team dynamics and employee interactions can stimulate certain behavioural factors that can either stifle or stimulate creativity. Having a consistently open environment in which engagement with new ideas and tasks is evident and where experimentation with new directions is encouraged will ensure that comfort does not lead to stagnation. Challenging the status quo involves risk; the remaining employees may perceive this as an element that disturbs their comfort zones. In order to maintain a curious and open environment, employees should receive ongoing training in soft skills in which their communication and listening skills are challenged and developed. This will allow them to prepare the grounds for creativity to grow. Without active listening skills, new ideas may not be given the necessary space to be heard and developed; as a result, idea development cannot be regulated with optimum efficiency. Thus, while an individual may possess high potential for creative behaviour, there will be little productivity if the team dynamics and interactions do not support a culture that supports the vulnerability and risk involved in challenging the status quo and staying competitive in an ever-shifting market. Soft-skill development in which the workforce further develops its ability to practise effective collaboration will assist the flow of creativity. Unity and community building thus also are important factors (Tan, 1998). These interventions contribute towards foundations (belief systems), support and competencies; any one intervention will have an automatic effect on other subsystems. This is in line with the total-system approach, which posits that implementing a variety of strategic decisions contributes towards the outflow of creativity from the organisation as a whole.

Interventions can be introduced incrementally, such that a greater degree of creative thinking begins to infiltrate into the behaviour of personnel and the expectations of



leaders. A particularly interesting, less practised yet effective form of intervention is the arts-based interventions with which a number of organisations have experimented, one of these being Unilever. James Hill became the CEO of Lever Brothers at a point in time in which the already successful organisation was in need of improving the creative performance of its employees. He created an opportunity for an arts-based intervention called 'Catalyst' to be implemented. Catalyst is now regarded widely as "one of the world's leading corporate art-based learning programs" according to Boyke & Ottensmeyer (as cited in Nissley, 2010, p. 14). Catalyst harnesses artists, arts-related organisations and the artistic process to gain insight, skill and inspiration for problem solving on an organisational level. The programmes in Catalyst draw upon a multitude of areas, including theatre, poetry, music, playwriting and design. Hill promoted the use of the arts and Catalyst as a powerful method by which organisational change could take place, specifically in relation to the cultivation of a culture of innovation in the organisation (Nissley, 2010).

The value of arts-based interventions is suggested further by Suzanne Merritt, who is the founder of 'Ideas with Merritt', which is based at the Boston Centre for the Arts in the USA. Merritt (2010) explores the power of the arts to illuminate the beauty in business beyond the bottom line, and expresses that these interventions are both professionally and personally rewarding, allowing leaders to fuel innovation in their organisations. While creative problem solving and De Bono's six thinking hats are powerful tools through which teams can be equipped to apply creative thinking within their group context, Merritt (2010) expresses something of a frustration with these tools. These tools present the challenge of equipping team members through sometimes complicated steps that need to be fully grasped before reaping the innovative fruits. There is far less reliance on natural creative abilities and far more of a focus on following steps and staying within the structure.

Merritt (2010, p. 71) says there is a need for a method of operation that engages "the imagination, sensibilities, and intellect simultaneously and draw[s] upon the natural creative abilities we have within us as human beings". Arts-based methods that enable employees to recognise greater meaning behind the work they do through activities rooted in drawing, collaging and photography also allow them to participate in a more organic experience of the creative process. Merritt (2010) expresses how

these methods, as opposed to structured creativity tools and techniques, pave the way for deeper connections to be made, cultivating a greater awareness, vision and understanding of the problem or client needs, as well as innovative solutions to meet these needs.

### **5.2.3. Psychological safety, vitality and culture at work**

The findings of this study have shown that psychological safety has a significant positive effect on creative work involvement. In essence, this means that individuals who recognise a high level of psychological safety within their work environment will be more likely to solve problems that other employees may find difficult. They are also more likely to feel safe enough to take risks, ask for help, and find new uses for methods or equipment. Displaying novelty and originality, for example, is also more likely to be demonstrated in employees who experience psychological safety in their environments. Managers who wish to see a greater exhibition of this type of behaviour in the work environment should seek to cultivate psychological safety in the work space.

People who identify psychological safety within their environments feel that they are able to raise issues with ease and without hesitation. The role of a leader in the cultivation of psychological safety is integral to presenting the employees with an understanding of the extent to which they are able to raise issues.

Managers should also seek to harness the unique characteristics and skills of employees. Individuals who identify psychological safety at work feel that their unique traits are recognised and harnessed; they do not perceive rejection as a result of being different. This points toward strategic task assignment in which individual skills are harnessed and recognised by managers. These individuals also recognise a safe space in which to take risks and seek help when required. Team development through intervention would be recommended to bolster psychological safety at work, as a sense of unity and care amongst the team members is identified in environments in which psychological safety is acknowledged.

In addition, Wang et al. (2014) did a study that indicated how psychological safety facilitates innovative performance when harmony enhancement is evident. The latter variable refers to an individual's tendency to value interpersonal harmony as a factor that can have a positive impact on progress, team success and even wealth. These

individuals view interpersonal harmony as an important objective in life, and even as a measure of an individual's capacity for forgiveness and personal growth (Wang et al., 2014). Needless to say, there are numerous factors that determine psychological safety. Whilst interpersonal harmony is not a dominant variable in the current study, it is significant to understand how it interacts with psychological safety – which is a dominant variable. If harmony enhancement can have a positive impact on innovative performance through psychological safety, managers should identify harmony enhancement as an important variable to prioritise when prioritising psychological safety. Thus, identifying individuals who express high levels of harmony enhancement when selecting personnel for an organisation can form part of a recruitment strategy through which innovative performance can be prioritised. Wang et al. (2014) also highlight the importance of training for this skill, although harmony enhancement is a disposition that is largely stable.

Edmondson (as cited in Kark & Carmeli, 2009) posits that psychological safety constitutes an integral component of the work environment. When an individual feels secure, the learning culture of the organisation is enhanced and the individual begins to engage further in work. If learning is an integral component of organisational success (Carmeli & Gittell, 2009), it is integral to ask what managers can do to develop higher levels of psychological safety within the environment. Employees need to know that their errors can be experienced as learning opportunities and that their job, credibility or reputation will not be jeopardised should they take risk or experiment with new ideas. Leaders should seek to develop and emphasise positive relationships between managers and team members, as well as implement structures that serve to grow relationships among team members.

Creating a positive and enriching work environment presents employees with a source from which to experience positive emotions. Facilitating the growth of stronger relationships at work can have a considerable impact on creative work involvement. Stronger connections between people are likely to result in a greater amount of energy. Kark and Carmeli (2009) indicate that positive affect and energy (vitality) are associated with higher levels of creative work involvement. It thus is within the interest of the manager not only to create a safe environment in which experimentation can take place, but also to allow for stronger connections to grow within the workforce. Leung et al. (2015) posit that the presence of psychological

safety has a positive effect on relationships, as it enables and assists people to grow closer together. This is owing to the fact that the presence of psychological safety raises awareness of the vulnerability of colleagues, thus encouraging individuals to behave in a way that reduces the potential for discouraging consequences within the relationship (Carmeli & Gittell, as cited in Leung et al., 2015). Moreover, psychological safety encourages helping behaviour, trust and respect. Committing strategies and training and prioritising psychological safety therefore will not only yield results in the areas of innovation, but also will strengthen the aforementioned relationship characteristics (Leung et al., 2015).

Organisations need to firmly enforce a learning orientation within the work environment so that a culture of open-mindedness is developed and creative thinking and collaboration can flourish (Mumford, 2000). Leaders would benefit greatly from becoming better informed about which employees demonstrate lower levels of creative efficacy and how best to nurture creative confidence and grow innovative thinkers. People in managerial roles have the opportunity to support and facilitate creativity by encouraging a culture in which innovation can take place (Carmeli et al., 2013). In this way, a creative work force can better contribute towards reviving development and activating transformation at an organisational and global level (Bissola & Imperatori, 2011). In order to develop this, leaders should aim to model ethical practices such as honesty and transparency in their interactions with employees; this will fuel and encourage openness and the sense of safety and trust needed for a highly innovative culture according to Walumbwa & Schaubroeck, (as cited in Leung et al., 2015).

By the same token, culture can also be a barrier to creative work involvement. The culture communicates with the employee and demonstrates what is permitted in the company. A strong and binding corporate culture that trains employees to think in a certain way can generate groupthink, whereby problem solving becomes hindered by a fixed mind set in approaching problems. An organisational culture can contain beliefs, values and assumptions that become deeply engrained in the employee. The effect of this can be greater if the firm is successful, in which case the values can be perceived as unquestionable keys for success. Once certain processes have been shown to be effective, it is even more difficult to convince employees to experiment with new ways of doing things (Tan, 2008). Thus, even a strong and positive

corporate culture can be obstructive to creativity and experimentation if it creates intolerance and an inflexible barrier to risk (Mumford, 2000). One of the most integral components of culture is psychological safety within the environment according to Edmondson (as cited by Kark & Carmeli, 2009). Therefore psychological safety in relation to culture will be discussed further in subsequent sections of this chapter.

The findings of this research show that the presence of vitality at work has a significant positive impact on the presence of creative work involvement. Thus individuals who claim to feel most vital, full of positive energy and strength when at work are displaying vitality. They also feel a sense of mental strength and have positive feelings towards their organisation. From a management perspective, there are opportunities to introduce interventions and systems in the work environment that bolster optimism and positive energy in employees. Feeling vital and mentally strong also indicates that employees enjoy their work and their organisation. Creating a positive environment and collecting information from employees about the elements of work that they enjoy and the elements that discourage them would be important in order to develop an environment that further supports this type of positive feeling at work.

### **5.3. TOTAL-SYSTEM APPROACH**

Importantly, the social context and influences on creativity at work can be just as conducive to creative output as they can be destructive. The construct of creativity is complex in nature – findings have even shown that exposure to new and unexpected circumstances allows for greater cognitive flexibility, which is highly conducive to innovative thinking (Kaufman, 2014). While creativity cannot be explained fully through one simple model, decoding something of a recipe or guideline for creative work in organisations could provide managers with a tool to help unleash innovative potential and unrivalled organisational success (Mumford et al., 2012).

#### **5.3.1. The Individual-Environment Interplay**

Individual creative work involvement should be explored within the context of situational factors. The interaction between an individual and his or her environment is crucial to the orchestration of creative performance (Choi, 2004). In order for organisational innovation to thrive, managers should be mindful of this interplay: the

individual differences that exist between employees and the influence of situational variables according to Amabile (as cited in Simmons, 2011).

Dr Tina Seelig is the executive director for the Stanford Technology Ventures Program (STVP), the entrepreneurship centre at Stanford University's School of Engineering. Her development of the Innovation Engine Mobia Strip has allowed audiences around the world to benefit from an abundance of research that is represented in this simple structure in Figure 5.3 below. The mobia strip demonstrates the relationships between an individual and his or her environment with innovation as the ultimate result in mind.



**Figure 5.1. Innovation Engine**

(Seelig, 2012)

The Innovation Engine is designed to illustrate how the interplay between the individual and the environment might manifest. The inner strips (attitude, imagination and knowledge) are representative of individual level skills or traits. The outer strips (culture, habitat and resources) are environmental factors in the organisation that are in constant interaction with the individual. The inner individual variables and outer situational variables that are presented in parallel with each other on the diagram signify a relationship in which activity and growth has a direct effect on the corresponding variable. The team and organisational culture of creativity is deeply affected by employee attitudes and beliefs towards it. In addition, the workspace habitat has the potential to inspire the employee's imagination. Lastly, work task or content knowledge further informs what resources are needed.

In addition, the interactions of the inner strips provide important insights: employee attitude influences a curiosity or interest in knowledge; this, in turn, feeds the imagination. The ability to imagine what is not there is crucial for the development of novel and innovative ideas. While the number of variables presented in the Innovation Engine are beyond the scope of this study, it is vital to outline the overall considerations for innovation in organisations. The current study aims to explore some of the variables that contribute to creative work involvement. The importance of exploring both situational factors as well as individual variables that contribute to creative work involvement is emphasised in both current research as well as in the Innovation Engine above.

It is crucial that employees see a consistent and strategic effort within the organisation to encourage creative thinking and behaviour. This emphasises the need for management to align organisational strategies with innovation at work if genuine transformation is to take place. Without this total system approach, isolated attempts to ignite creative work involvement across teams can be somewhat ineffective. The total-system approach described by Tan (1998) is a fundamental strategy to adopt when working towards individual creative work involvement within an organisation.

### **5.3.2. Strategic alignment for creativity**

For an organisation to achieve creative outputs, Tan (1998) posits that it is not enough merely to hire employees who display tendencies for creative work involvement. In fact, the facilitation of creativity at work is all-encompassing; a collection of variables should be considered if innovation is to be explored thoroughly. The total-system approach is what Tan (1998) projects as a crucial route in order to encourage individual work engagement and subsequently to build innovative companies. Individual and team creativity are greatly affected by employees' environment, as well as by the leadership style to which they are subjected (Carmeli & Spreitzer, 2009).

Tan (1998) indicates that leaders have both the authority and capacity to set an example and the tone for the culture of creativity that may develop in the team. Interestingly, teams that display high psychological safety and vitality at work all encourage innovative behaviour, while positive moods at work stimulate creative



problem solving and innovative thinking. The opportunities to facilitate innovation effectively present themselves through a multitude of possible managerial decisions and initiatives in favour of orchestrating creativity. It is crucial, however, that managers possess knowledge of individual and contextual factors that support innovation at work. The organisational culture, techno-structural subsystems, management and people are the four subsystems that Tan's model presents as being present in an organisation and that are in need of a strategic focus in order to manage creativity effectively, as each possesses its own creativity barriers. IDEO, a leading R&D firm, enforces a company culture that actively and explicitly stimulates creativity. The deep learning orientation associated with supporting experimentation and the low bureaucracy assist in the maintenance of a creative workforce. Organisation and team culture thus are shown to be crucial elements in the delicate balance when managing creativity (Tan, 1998).

### **Techno-structural subsystems**

Organisational procedures and processes, such as reward systems, technology and communication systems, which form part of the techno-structural subsystems, can also be harnessed to encourage creativity (Tan, 1998). For example, technological tools such as computer-based systems can assist, inspire and facilitate creativity at work if those who design such systems are mindful of innovative behaviour. There are far more effective ways in which to ignite change than the mere implementation of rules and regulations. Thus, the company's application of technological systems to initiate change may not always yield the expected improvement immediately (Tan, 1998). An over-emphasis on rules and regulations may cause employees to fall into the habit of mechanically applying these rules, even when the circumstances call for a unique and innovative solution.

### **Remuneration**

The total-system approach to innovation does not exclude remuneration, as this too is a powerful influence associated with behaviour and should be approached strategically. When reward systems penalise employees in accordance with the number of mistakes made, employee risk taking – which is a crucial component of experimentation and innovation – will be avoided. Subsequently, employees are not encouraged to explore new directions, while traditional thinking becomes engrained;



this often prohibits innovative behaviour (Tan, 1998). Competitiveness in organisations is often deemed a potent means through which performance can be motivated. However, a reward system that is highly sensitive to individual efforts alone will do less for collaboration amongst personnel. While many people tend to assume that creative individuals work and succeed alone, more powerful demonstrations of creativity point towards the power of collaboration for creative output (Mumford, 2000). Reward systems thus should be controlled tactically if creativity at work is a desired objective. The above suggestions make it clear that creative thinking can be facilitated through systems and procedures to cultivate innovation within institutions.

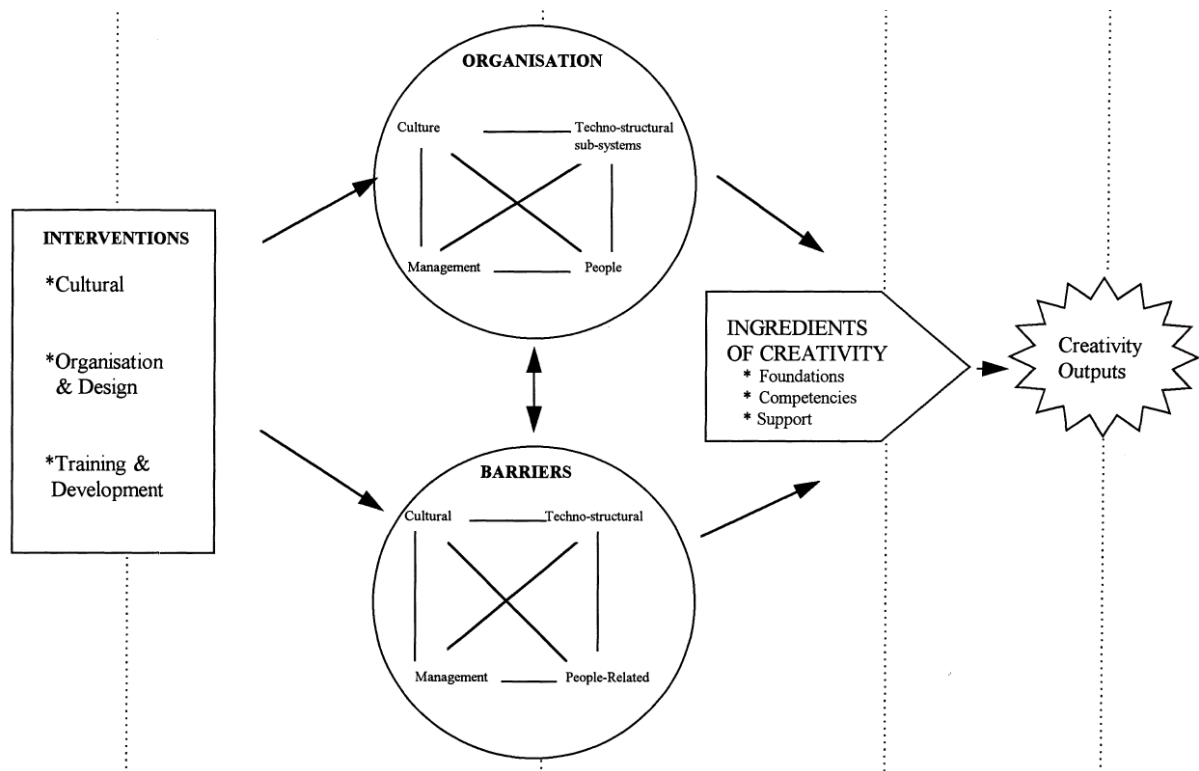
The message conveyed to employees regarding management's attitude towards divergent thinking and experimentation will dictate the degree to which employees are willing and able to innovate. By virtue of their position of authority, management members are able to make decisions that immediately affect how creativity could manifest in the workforce. Recruitment, technological systems and organisational designs are just a few areas that can open opportunities to increased creativity. When management promotes a shared vision, organisational systems are further enabled to be instrumental in engaging creativity. In order to encourage creativity, management should encourage risk taking, experimentation and feedback from personnel.

Knowledge of how best to stimulate individual creative work involvement is crucial for managers who wish to invest in advancement and innovative thinking in the firm. If innovative organisations are made up of innovative people, how important are recruitment and selection procedures? Organisations such as IDEO and Microsoft are committed to hiring employees who display high intelligence as well as a hunger for new challenges and a desire to explore new ideas (Tan, 1998).

There is abundant research that shows that employees who are open to new ideas and new experiences are more likely to be creative or engage in creative work. Resistance to change, the constant rise of conflict and the sense that job demands exceed abilities are some obstructions to creativity. It thus is no surprise that companies that display success in innovation steer clear of the abovementioned barriers (Tan, 1998). Employee resistance to change is a predictable behaviour; it is always easier and less threatening to continue applying habitual thinking patterns

and behaviours. However, in order to continue to exhibit creative behaviour, employees must be prepared to become habituated to constant change, openness to new ideas and collaboration. Thus, the avoidance of destructive behaviours, such as the immediate rejection of new suggestions and systems that reinforce status-based evaluation, is crucial for the development of creativity.

The three major ingredients of creativity are, firstly, the foundations, which consist of the belief systems of the individual employees. A positive attitude towards creativity by both the manager and the employee is crucial for creative development. The individual employee should have a positive perception of his or her own creativity in order to be empowered to engage innovatively in tasks. This illuminates the importance of the individual and his/her personal beliefs regarding creativity and the manifestation thereof (Tan, 1998). Efficacy and personal beliefs thus also would be necessary for review in the light of the assessment of creative work involvement at the individual level. Korman (1971, as cited in Tan, 1998) explicitly states that, in order for creativity to occur, the individual should have a high level of self-esteem or confidence in the area of creativity. Creative confidence is needed to support the boldness and risk that are required when testing and experimenting with new processes and procedures (Tan, 1998). This also points to the importance of the individual's environment, and the degree to which the individual is encouraged and supported in order to allow creativity to manifest. In addition to self-efficacy, it also is important to consider how other individual dimensions affect individual creative work involvement. Below is a systems framework developed by Tan (1998) that illustrates a number of the components discussed in this Chapter. Figure 5.2. below depicts a total-system framework of factors affecting creativity.



**Figure 5.2. A total-systems framework for managing creativity in organisations**

(Tan ,1998)

Addressing creativity in organisations should be done by a multidisciplinary approach; our knowledge and understanding of this construct is still quite fragmented. For these reasons, careful facilitation of the vital interplay between an individual and the social influences at the workplace can determine if creative performance will be stifled or stimulated. It has been established that both the individual as well the environment are crucial for individual creative work involvement. Managers should seek to manipulate the environment in order for employees, and specifically those who display high levels of openness to experience, to operate at their maximum potential and for creative work involvement to flourish within the workforce.

## **5.4. LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH**

Due to the time constraints placed on the completion of this study, as well as the need for a convenience sample to be used, there are several limitations of this study. These are presented below. In addition, as only a limited number of constructs could be explored within the context of this study, the recommendations to follow discusses a number of different research directions that can be taken for future study and knowledge acquisition.

### **5.4.1 Limitations of the Study**

The limitations of this study include, firstly, the fact that inclusive leadership is assessed by the perceptions that each team member has of his or her immediate leader or manager. This opens up an opportunity for bias towards or against the leader to be expressed through these surveys; a more accurate reflection of the leader's inclusive leadership qualities cannot be assessed as accurately when a 360-degree assessment is used.

The results also were gathered at one point in time. Thus the responses may be influenced heavily by certain behaviours that may have become evident or more pronounced in the week or month that passed prior to assessment. With this in mind, it is possible that the results gathered are demonstrative of perceptions at a certain point in time, as opposed to a general and objective assessment of behaviour over the long term. If several assessments had been completed, with adequate time in between each assessment so as to prevent a memory of the previous assessment from influencing results, there would be a more holistic understanding of how inclusive leadership, psychological safety, vitality and creative work involvement manifest overall in that particular work environment.

Another study limitation is the fact that the assessments are purely empirical. A quantitative research approach allows an anonymous presentation of data, but this approach naturally limits the richness that might be obtained through interviews and the opportunity they hold for prodding for more information during pertinent parts of the conversation. In such a case the study would be able to present scientific data that holds credibility in their own right, as statistical results would be drawn from the surveys. However, this study does not offer the richness of detail and insight into

personal thoughts and comments regarding the constructs being measured, which may limit the potency of the study. Nonetheless, the empirical collection of data offers the opportunity to obtain responses from participants that are less likely to be corrupted due to preserved anonymity, which is much less present in the qualitative research approach.

In terms of the convenience sample that was used in the study, there is the limitation that the sample may not be entirely representative of the population. The results and conclusions were drawn from data taken from a number of different industries; there is a moderate degree of variance in the industries represented here; however, this could be improved. Moreover, it can be noted that 76% of respondents indicated that they were Christian; the race demographic segment reflected that 66% of respondents were white. In addition 80% of respondents indicated that their workspace was of an open plan structure. One limitation of this study lies in the fact that the results of this study can thus be more accurately generalised to employees who form part of the same race, religion and work structure demographic.

Research shows that creativity-relevant personality factors can predict creative performance, and since openness to experience (which was found to have a positive effect on creative work involvement) is a personality factor attributed to a creative personality, it is safe to assume that creative work involvement would also be correlated with creative performance (Collins & Cooke, 2013). While it is *predictive* of creative performance, there are a number of individual and situational factors that contribute to creativity at work, and creative work involvement cannot be assumed to assess all of these factors. The potential limitation of the structural model is the fact that the creative quotient is not assessed. If creative ability or creative thinking also formed part of the analysis, there would be a richer understanding of what causes variance in creative work involvement. For example, the Torrance Test of Creative Thinking, which is a reliable indicator of creative thinking ability, could have been a useful variable to add to the structural model. The model hence could be enhanced by adding individual-level factors to the study.

#### **5.4.2 Recommendations for future research**

Kaufman (2014) speaks about how, in some cases, creativity also is stimulated by a sense of not belonging and a subsequent desire to prove one's capability. This is

contrary to the findings of the current study, which suggest that a sense of safety and acceptance creates a climate that is fertile for creativity. It thus would be interesting to explore the circumstances or environment in which these varying results manifest.

Another finding of this research that offers great opportunity for further exploration is that of the effect of vitality on creativity. It thus may be important to undertake further research on the effect of vitality on creative work involvement, as opposed to a moderating effect on another variable. Closely associated with vitality and the energy that is experienced when engaging in creative tasks is intrinsic motivation. The effect thereof on creative work engagement, as well as the interaction of intrinsic motivation with the remaining variables in the structural model, is a possible and valuable area of research.

The current study has taken into account a single personality variable, namely openness to experience, which was identified as a trait that is indicative of creativity. Further research may find purpose in exploring the degree to which this personality trait affects creative output; this would hold important implications for organisational recruitment strategies. A recommended area of research would be to identify the degree to which the external environment is able to affect creative work involvement when there are lower levels of creativity-specific personality traits.

## **5.5. SUMMARY**

This chapter has presented the reader with the practical implications of the study and how the industry might make use of the statistics obtained for the overall benefit of organisations. In essence, the interaction between the individual and his or her work environment is what largely determines the degree to which creative work involvement will be exhibited in the environment. However, the most pertinent factor is that of the influence that leaders hold – it is through their decision making that structures can either be implemented to stifle or stimulate creativity at work. In addition, possible interventions were presented and managers are presented with an indication of how the research might have practical importance within their work settings. Finally, the limitations of the study and recommendations for future research were presented. It was found that there are a number of important research areas that still require attention in order to fully understand how best to stimulate creative work involvement and ultimately foster innovation at work.

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## APPENDIX A: Letter of Permission



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY  
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### TO WHOM IT MAY CONCERN

Letter of permission for research project

I am currently enrolled for my Master's thesis in Human Resource Management in the Department of Industrial Psychology at the University of Stellenbosch under the supervision of Dr B. Boonzaier (bb@sun.ac.za)

I hereby request permission to conduct my research within your organisation. The information I need will be gathered through one electronic survey which consists of 39 rating scale items and should take approximately 5 to 8 minutes to complete. These responses are submitted 100% anonymously.

This letter also serves to inform you that all information will be utilised solely for research purposes and the anonymity of all will be guaranteed.

Thanking you

Warm regards

Amanda Mavrokordatos (Amanda.mavro@hotmail.com)

Signature: \_\_\_\_\_

Date:

\_\_\_\_\_

I \_\_\_\_\_ give permission for Amanda Mavrokordatos to conduct her research at \_\_\_\_\_ (company name).

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_

Name of company representative



## **APPENDIX B: Informed consent**

### **STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH**

*Cultivating creativity: Investigating the factors the influence individual creative work involvement.*

You are asked to participate in a research study conducted by student researcher, Amanda Mavrokordatos, from the Department of Industrial Psychology at Stellenbosch University.

The results of the study will contribute towards the completion of a Master's thesis. You were selected as a possible participant in this study because you are a permanent job holder in South Africa. The sample of the study is not specific to industry, gender or age and draws on everyday creativity. Therefore you qualify as a possible participant for the data collection.

#### **1. PURPOSE OF THE STUDY**

This study has been designed to investigate factors which influence individual creative work involvement. In addition, the relationship between these factors will be explored in order to determine what types of measures organisations may be able to take in order to stimulate creative work involvement on the individual level. The study explores levels of vitality, psychological safety, inclusive leadership as well as openness to experience. In addition, the relationships between these variables and with creative work involvement is explored. Regardless of the industry, everyday creativity is evident and measurable in all individuals. More importantly, it is a phenomenon which is has been shown to be affected by situational factors. Creative work involvement is crucial for the advancement of any team or organisation. Competitive advantage in an turbulent market relies on the presence of innovation in an organisation. These organisations consist – at least to some degree – of innovating employees. This study aims to uncover managerial implications for orchestrating creativity work task engagement in the individual.



## **2. PROCEDURES**

If you volunteer to participate in this study, we would ask you to do the following things: 1. Click on the link which you will receive via email. 2. Read the questions and select the option which is most appropriate for your circumstances. The survey consists of 39 items and should take approximately 5-8 minutes to complete. In addition to 39 items which assess the core constructs which are being studied through this research, the initial section of the survey will request demographic information. Due to the fact that participation in this study is both anonymous and voluntary, participants may choose not to answer the initial demographic questions before proceeding with the content questions. 3. Submit the survey by clicking 'submit' at the end of the last page of the survey. This concludes the participation in the study.

## **3. POTENTIAL RISKS AND DISCOMFORTS**

There is a low risk associated with participation in this study. Potential discomfort may arise in being asked to consider the presence of vitality, openness to experience, inclusive leadership, psychological safety and engagement in creative work within your environment. Apart from being required to reflect on these concepts during the survey, there are no other risks or threats involved.

## **4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

The subjects participating in the study may benefit through the receipt of the research results upon completion of the study. Certain organisations that request a personalised company report will be presented with specific managerial implications that may assist to enhance weak areas which are isolated through the research. In this way, these participants will benefit should managers take action based on the recommendations presented.

Moreover, the human resource managers or alternative liaisons from each of the 39 organisations that took part in the study will be receiving the research report (full dissertation), which presents general managerial implications and recommendations based on the 519 responses overall. Similarly, therefore, participants who form part of these organisations will also benefit from managerial action taken based on the recommendations presented which aim to indicate methods and procedures that can be utilised to bolster creative work involvement.

Industry will benefit from further understanding the effect of psychological safety and the value of inclusive leadership within work teams. Recruitment strategies and wellbeing strategies may be further equipped through results drawn from the measurement of openness to experience and vitality respectively. Further knowledge regarding the cultivation of creativity at work can better equip leaders to stimulate innovativeness at work, thus developing competitive advantage and success within a turbulent market. The value and knowledge of creative work involvement can be perceived as the value and knowledge attached to progress and advancement at work. On an individual level, the participant may benefit by being required to reflect on his or her personal creative work involvement. This may be a helpful experience, especially for those who are willing to enhance creative work involvement. This benefit can be applied to the remaining four constructs: openness to experience, vitality, psychological safety and inclusive leadership. In being asked to reflect on these creativity-relevant constructs, it is possible that participants' knowledge and insight regarding creativity increases.

Society can benefit significantly from knowing more about how to stimulate creative thinking and behaviour at work. These research findings illuminate factors that further enhance creative work involvement, and knowledge in this area can assist organisations in the broader community to reconsider traditional approaches to management or team design, for example in order to stimulate maximum creative work involvement. Society at large is in need of more effective and innovative problem solving to take place. Providing insight in how best to facilitate creative work involvement can create an environment in which society and South Africa as a country can be more innovative in all industries and spheres of work.

## **5. PAYMENT FOR PARTICIPATION**

There will not be payment for participation in the study.

## **6. CONFIDENTIALITY**

Any information that is obtained in connection with this study that can be identified with the participant or organisation will remain confidential and will be disclosed only with the organisation's permission or as required by law. Confidentiality will be maintained through the web-based survey, which is anonymous. Employee names will not be requested in filling out the survey. Only the researcher, Amanda

Mavrokordatos, and Statistics Professor Martin Kidd at Stellenbosch University, will have access to the data. The purpose of disclosing the data to Prof Kidd is for input regarding the statistical analysis. However, there will be no other parties involved in the analysis and viewing of the surveys. The data will be stored anonymously in a password-protected personal computer. Results will be analysed and presented in the Master's dissertation, where the names of the organisations and participants will not be revealed.

## **7. PARTICIPATION AND WITHDRAWAL**

Participation in this study is entirely confidential. Participants may also choose to withdraw at any time without consequences of any kind. Participants may choose not to answer section 1 of the survey, which requests demographic information; however, they will find that they cannot continue with the content questions should they choose not to answer any of the content questions. All of the content questions must be completed in order to submit the survey. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## **8. IDENTIFICATION OF INVESTIGATORS**

If you have any questions or concerns about the research, please feel free to contact Amanda Mavrokordatos at [Amanda.mavro@hotmail.com](mailto:Amanda.mavro@hotmail.com), or her supervisors, Dr Billy Boonzaier ([bb@sun.ac.za](mailto:bb@sun.ac.za)) and Michele Boonzaier ([mib@sun.ac.za](mailto:mib@sun.ac.za))

## **9. RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [[mfouche@sun.ac.za](mailto:mfouche@sun.ac.za); 021 808 4622] at the Division for Research Development of Stellenbosch University.

The statements to follow can be responded to on page one of the survey before proceeding or declining to proceed in the filling out the survey.

I have read and understood the foregoing information and voluntarily agree to participate in the research under the stipulated conditions.

I have read and understood the foregoing information and but decline the invitation to participate in the research under the stipulated conditions.

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